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JUNE
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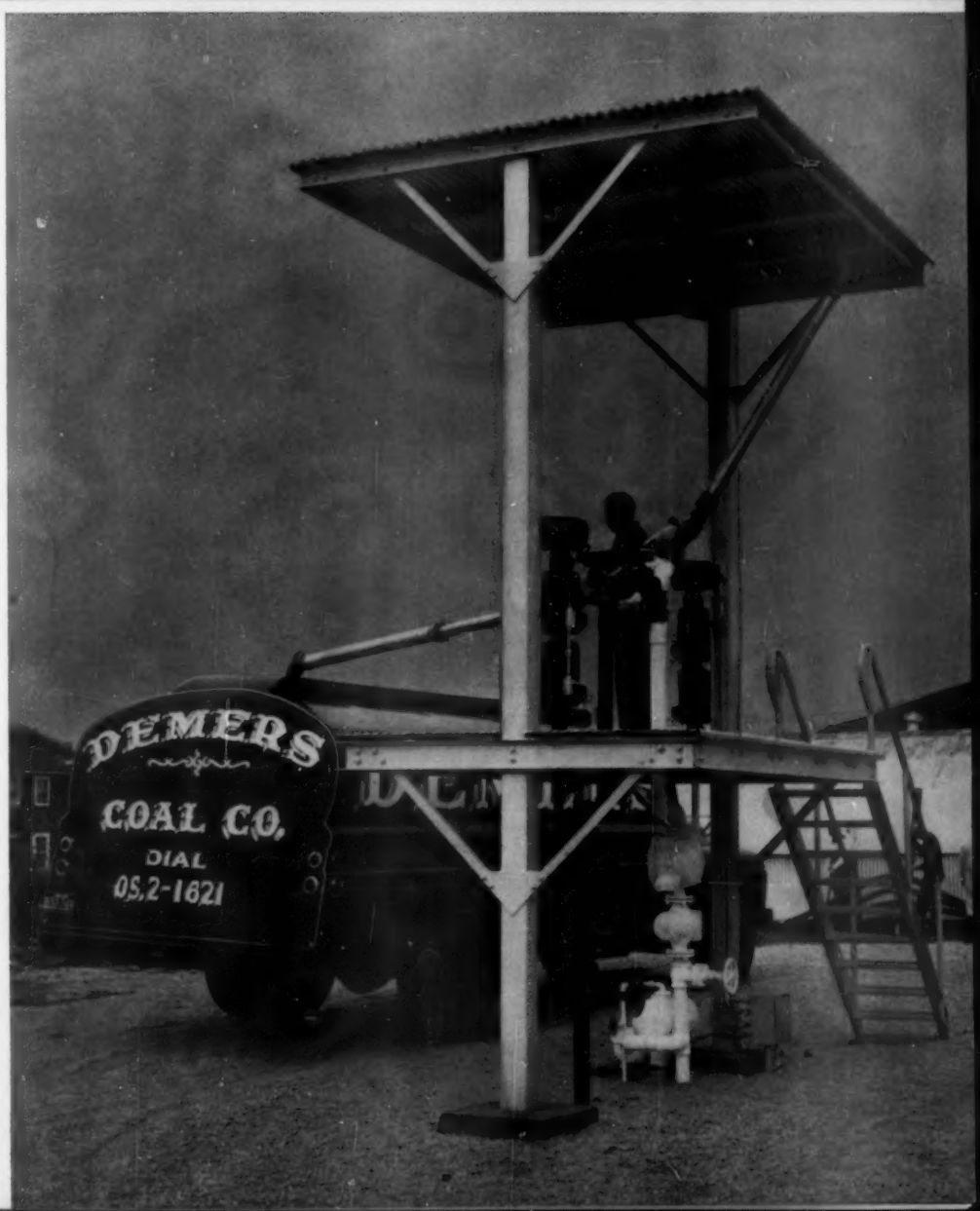

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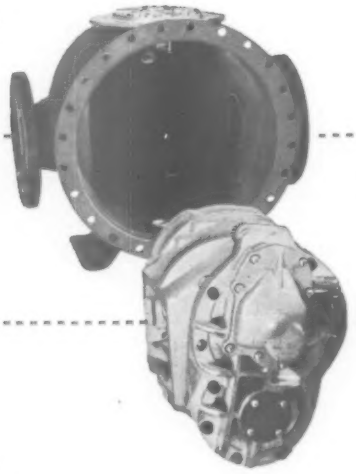

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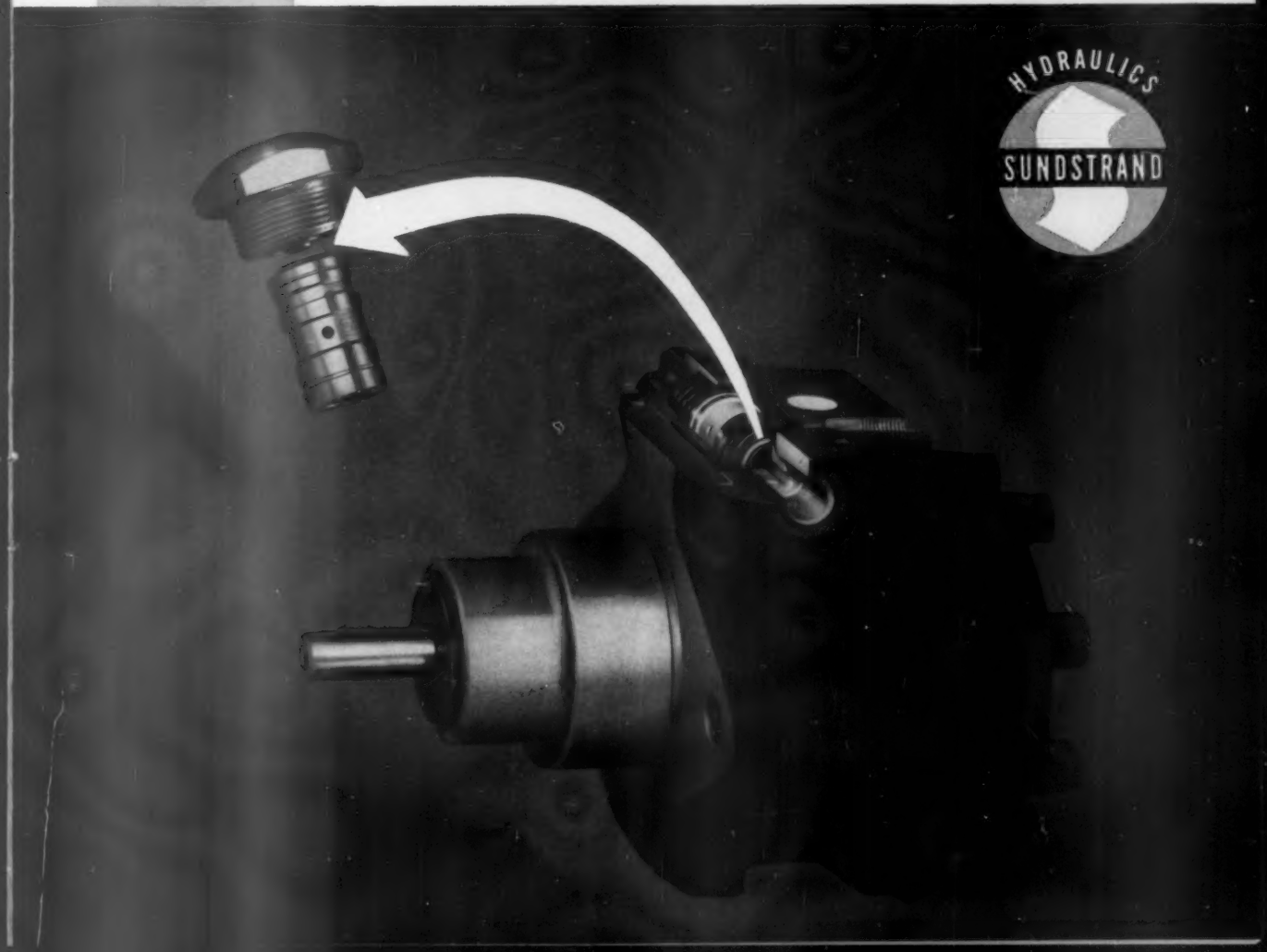

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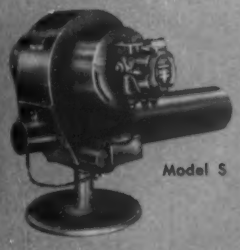
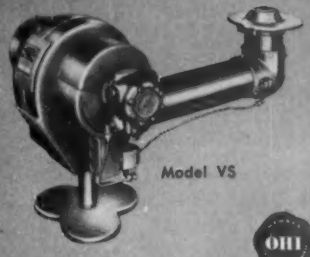

Model S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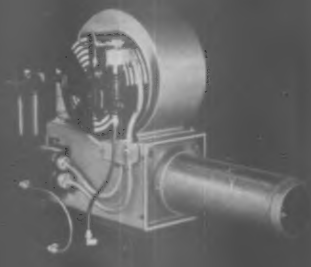
OIL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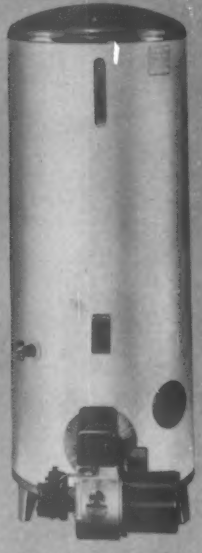

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JUNE 1961

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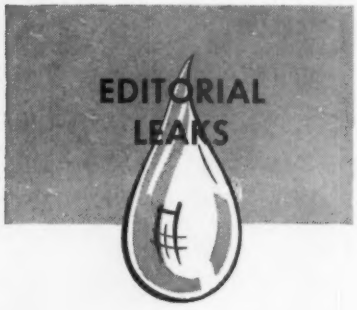
Among other things . . .

The principal theme of the feature section this month is "Spring meeting report." There are four important meetings covered, beginning with an advance look at the New England Biennial Oil Heat Exposition and followed by the final annual meeting of the Oil-Heat Institute of America. Next on the West Coast there's a report of the Pacific regional convention and then a quick trip to the Gulf Coast for the API Fueloil Committee sessions. A busy month attending these four key meetings but the reports are proof enough that they produced valuable information for those who were there.

A look at combustion gas recirculation, page 54, reports on a significant study made by Atlantic Refining Co. It's another demonstration of the vitality of oilheating and the remarkable steps being taken to make it even better.

Cover photo: An up-to-date Brodie meter installation identifies this dealer's truck loading rack as modern and efficient.



THERE IS SOME thinking that the Fuel Oil Committee, Marketing Division of API should be discontinued, now that the one-roof NOFI has been consummated. This dissolving of the Committee has been proposed by two or three individuals of normal intelligence.

However, in personal conversations with quite a number of present members of the Committee each of them has stated quite emphatically that the group can continue to serve a very useful function and should be kept intact for at least another two or three years.

During the ten years of the Fuel Oil Committee's activity our portion of the barrel has risen in top level esteem to a very great degree. This has come about largely because the high officials of the major companies have learned about fueloil's place in the sun through presentations and programs sponsored by the Fuel Oil Committee.

In October 1953 the Committee first proposed a cooperative advertising campaign shared by dealers and refiners. This came to fruition in the OHMR and the NFC, which has raised to date $8 million.

In May 1958 the Committee launched a plan to interest refiners in supporting fundamental research for oilburning with the result that the present API research arrangement with Battelle Memorial Institute is in being, spending this year $1 million, and projected for several years ahead.

In that same year a subcommittee of the Fuel Oil Committee was appointed to try and work out a merger between various trade associations and the National Fueloil Council. This is now operating as the National Oil Fuel Institute, headed by Glenn Werly.

Why could not these same things have been accomplished by any good trade association in the industry? Principally because the Fuel Oil Committee, as a unit of API, had more direct access to major company officials. The marketing vice-presidents of the companies heard the reasoning, the details, and adopted the recommendations.

Fueloil and oilheating became for the first time very important to the policy making levels, not to mention the keepers of the purse.

The oilheating outlook, while not particularly unfavorable, nonetheless is going to require very close application by the industry's best minds in the next few years as new courses are mapped out. There will be innovations. Some of them are now in the early imagination stage. They will involve some doings that today would seem decidedly unorthodox.

But if they are proven useful, and if they require industry support, the logical place to make the sale will be at the API Marketing Division level, where its own Fuel Oil Committee makes a semi-annual presentation.

So let's take a long and serious look before making a snap judgment to abandon what has become our straightest line of communication to the top.

Someday, Yes . . . this year or next, No.

AND IN THE "Who knows what's coming" department there's an example this month from the General Electric Co. It's a water cooler operated on the thermoelectric principle. It has no compressor, no refrigerant and makes no sound, since there are no moving parts. The temperature is regulated by varying the amount of current flow. This cooler has been put out in experimental quantities.

Westinghouse has shown that the same principle can make heat, while Minnesota Mining & Mfg. Co. reverses it to make electricity from heat, enough when installed inside a gas furnace to run the blower for forced air.

THE STORY of the Pacific Coast convention, told in this issue, highlights the thought that the industry is moving into the sphere of equipment equalizing allowances. There's a lot of talk about it these days. The Northwest did it first, not surprising in view of their absolute need to hold the market for oil or reduce their refinery runs.

Dealers and suppliers in other parts of the country are talking about it a lot and wondering what kind of program might work in their areas.

One refiner in Portland observed that their program had cost the industry 30% of the first year's billing which he considered very conservative for adding new business. A manufacturer of oilheating equipment noted that we can probably get the cost of a burner down near a gasburner price but that the oil industry must do something to offset our handicap in the cost of the tank. He feels that the gas utility in running free lines and meters is always subsidizing the installation by bringing the fuel to the burner tip.

Our big problem, of course, lies in finding a way to be sure and hold the oil account if an individual company is to make the tank investment.

There is little question but that our industry can afford the investment in equipment allowances of some sort, since an oilheating installation typically stays put for 17 years and that means $4,000 in sales on the average.

MERGERS ARE the fashion these days it seems. Not only do we have the NOFI in our phase of the oil business, but in a matter of weeks we are to introduce the National Petroleum Refiners Association through a joining of the 59 year old National Petroleum Association and the Western Petroleum Refiners Association. As the name infers the emphasis of this group is to be in the manufacturing end.

These folks affect us mostly in the sphere of fueloil specifications which is just now a live topic as we try for improved standards for No. 2, to better reflect the actual heating oil we are getting, and to simplify the design problems of the burner manufacturers.

SUN OIL CO. is celebrating its 75th anniversary with 55 employee birthday parties. President Robert Dunlop is making them all, in 27,000 miles of dinners and barbecues. Important in his "family" talks is the point that 98% of Sun's present value came from reinvested earnings, 2% from original capital. Happy Birthday, sure 'nuff!

performance proves conversion to I.C. HEV-E-OIL burners reduces fuel cost, cuts maintenance!

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**Note: Conversion was made from light oil (No. 2) to heavy oil (No. 4).*

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Sincerely yours,

CAFRITZ COMPANY

Irwin Altman
Executive Vice President

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Write today for printed information or a free demonstration.

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GOVERNMENT INFLUENCE ON FUELS

by James M. Collins

WASHINGTON — Another wholesale revision of the crude oil imports control program now appears to be in the works—but it may be some time before a new policy is put into effect.

After two days of hearings here at the Interior Department, with testimony from about 80 witnesses, several points stand out. First, there is growing support for changing the basic level of crude imports so that they are more directly related to the demand for domestic crude oil. Now the level, East of the Rockies, is set at 9% of what the Bureau of Mines estimates will be the demand for products throughout the area, during the ensuing six months period.

But, since inception of import controls in the spring of 1959, a number of factors have tended to distort this ratio so that oil imports have risen—as total product demand has gone up—but domestic production of crude oil has declined.

Reasons for this trend are not hard to find: the output of natural gas liquids—which go into the refinery stream to make products—has increased substantially, natural gas production, too, has gone up markedly; domestic yields of residual fuel oil have declined, however, so imports of residual have been permitted to increase; and there have been increasing shipments of products from outside the area East of the Rockies (and of crude and liquids from Canada and Mexico).

At the hearings, when domestic producers urged basing the level of crude imports on crude production, and they got significant support from Humble Oil & Refining Co. Humble President Davis, who said he also was speaking for New Jersey Standard, urged a "flexible" level, bottomed on the output of crude. A number of independent refiners also supported this idea.

Significantly, also, virtually every witness, including those from major companies, supported import controls, or at least did not urge their removal.

Basic Change Is Seen

Interior officials, it is believed, are sympathetic to the idea of relating crude imports to domestic production, so such a change is likely to be made.

Other major points emphasized at these hearings involved, primarily, the method of allocating quotas to individual companies. A number of majors, concentrated principally along the Delaware River Basin who would have their quotas cut substantially if the "historic floor" were eliminated, urged no change in this provision. Others, however, urged that every refiner be put on the same basis, computing his quota on the basis of a percentage of his refinery runs. A variation of this, by the smaller refiners, was that a larger percentage be granted for the first 30,000 B/D of runs, to give a preferred position to the small operator.

Ticket 'Bartering' Is Hit

One issue was aired, however, that is likely to be investigated thoroughly—perhaps even by a congressional committee. This involves exchanges of crude quotas to coastal refiners, by inland refiners who can not profitably use imported oil in their own land plants. In return for trading their imported oil, the inland refiner is supposed to receive domestic oil from the company with whom he exchanges his quota. Basic reasons for allocating quotas to all refiners are that this permits them to compete against cheaper foreign oil, that it maintains their capacity in dispersed areas, which would be valuable in case of an emergency, and it stimulates, to some extent, the purchase by them of domestic oil (estimated now at about 220,000 B/D).

On the other hand, charges were made at the import hearings that quota tickets are being sold to coastal refiners, and that actually no domestic oil is exchanged.

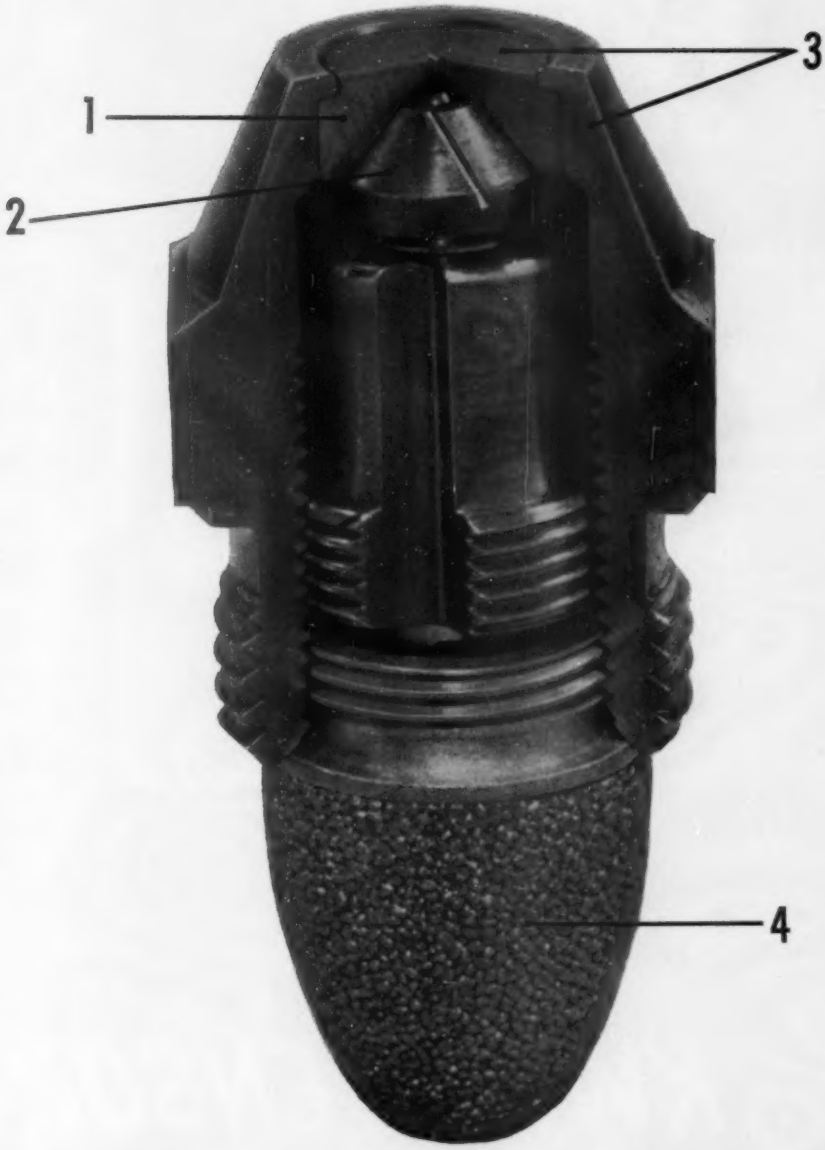
Meanwhile, the question of gas legislation has become clouded, with a host of proposals now getting consideration on Capitol Hill. A bill, pushed by the National Association of Railroad and Utility Commissioners to tighten up on gas prices at the production and pipeline levels has already come before the Senate Commerce Committee. Its fate is still uncertain. In the House, hearings are expected—but not yet certain—on legislation to revamp the Federal Power Commission (adding two more commissioners) and to consider the proposal by President Kennedy which would exempt from federal control every small producer (whose sales do not exceed two billion cubic feet a year in interstate commerce). Chairman Harris (D, Arkansas) of the House Commerce Committee, is considering general gas legislation, patterned after his bill of 1956 and 1958 that would regulate gas in the field on the basis of "reasonable market price." But, there is little chance this will get far this year.

'Gas' Tax Increase Is Extended

For oil marketers, the action in the House overwhelmingly extending the four-cent federal gasoline tax, to help finance the highway program on a pay-as-you-go basis and to finish construction by 1972, was bad news. This "temporary" one-cent rise (from 3¢ to 4¢ in 1959, which was supposed to expire July 1 this year) will now last at least until October 1972. It would not be surprising if the tax were increased still more between now and 1972. This will make it tougher for refiners to get all of the profit they feel is needed out of motor fuel (the diesel tax will remain at 4¢ for the next 11 years, too). Effect on other products, like heating oil, remains to be seen.

Fuels Study Is Nearly Set

In the Senate, hearings have been set for late June on the resolution to set up a special Senate committee to make a study of "national fuels policy." This proposal is pushed by the coal industry which hopes to obtain legislation to curtail residual fuel oil imports and to control "dump" sales of natural gas to industrial users. It is possible that the Senate Interior Committee, considering the resolution, will launch a study of its own, making the resolution unnecessary.



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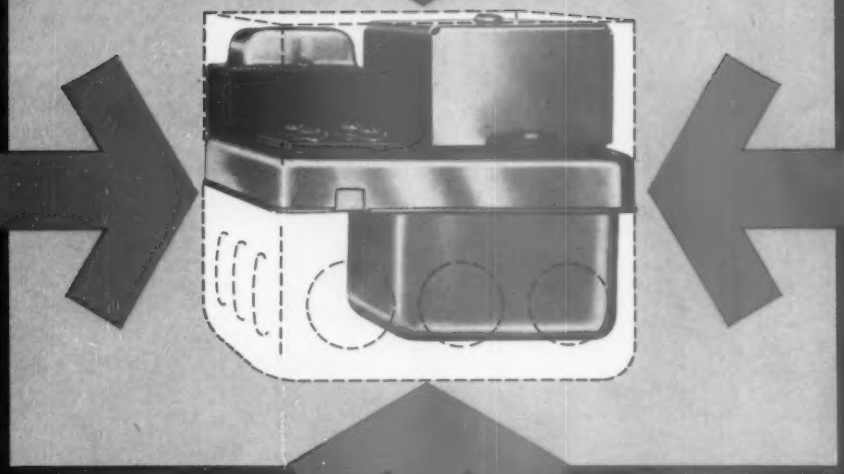

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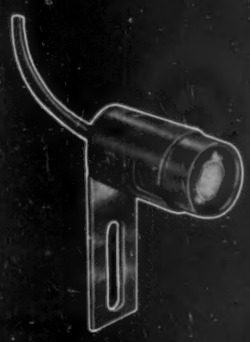

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Monthly oilheating Trends

APRIL INSTALLATIONS of domestic oilheating equipment were approximately 39,043 which is nearly 4% above last year's adjusted figure of 37,704.

For the total four months, the installations are estimated at 145,358 or 4.6% below last year's 152,381. An interesting point here is that factory shipments are doing better than field installations. The table shows the details to the end of February, the latest available data, and we see that domestic equipment is up 4.9% and total oilheating shows a plus of 3.9%.

Dealer stocks at midwinter had falling to an extremely low point so the pickup in factory shipments might be called "filling the pipeline."

The four months shipments were divided; new homes, 34,731 which was a big drop from last year's 59,474; replacements of old oilheating, 86,180 compared to 56,486 last year; conversions from other fuels, 24,447 against last year's 36,421.

The very significant factor here is that replacements this year have represented 59% of total installations while in the same months of last year they were only 37%. We are definitely launched in the replacement era so long predicted.

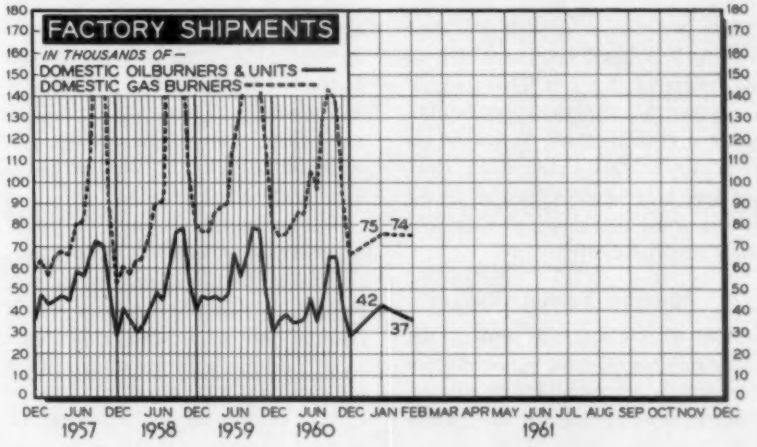
Oilheating dealers in April installed approximately 904 central airconditioning jobs. They also sold 1,717 power burner water heaters.

Oilheating Stocks: At the end of April dealers had on hand approximately 39,008 domestic burners and units compared with 36,561 a month earlier and 46,560 on the same date last year.

The current stocks were divided: separate burners, 20,206; boiler-burner units, 7,841; and furnace burner units, 10,961.

Factory stocks at the end of February were 40,733 compared with last year's corresponding date with 49,696.

Tank Stocks: At the end of April dealers had on hand approximately 29,367 customer oil tanks, a modest rise from the previous month's 26,379, and a large drop from the same date last year with 42,686.


FACTORY SHIPMENTS
IN THOUSANDS OF—
DOMESTIC OILBURNERS & UNITS
DOMESTIC GAS BURNERS
75
74
42
37
DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1957 1958 1959 1960 1961

April Minimum Retail Prices Key Dealers

	April Avg.	*Mar. Avg.*
Separate Burners	$316	$315
Boiler Burners	745	749
Furnace Burners	611	611

Price Index: Separate Burners 1947-49 is 100%

WHOLESALE			
April	95.8	Six months ago	94.5
March	96.4	Year ago	94.1

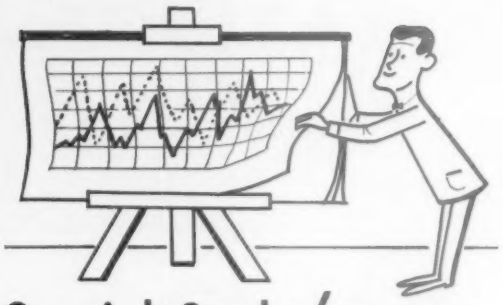
RETAIL			
April	91.9	Six months ago	90.8
March	91.2	Year ago	90.9

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than those reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	FEBRUARY			TWO MONTHS		
	1961	*1960*	*Percent Change*	*1961*	*1960*	*Percent Change*
Separate Burners	22,052	28,180	—21.7	48,393	55,933	—13.5
Boiler Burners	3,180	3,748	—15.2	6,662	5,834	+14.2
Furnace Burners	11,261	6,419	+75.5	23,022	12,654	+81.9
All Domestic	36,493	38,347	— 4.8	78,077	74,421	+ 4.9
Commercial	2,374	2,872	—17.4	5,036	5,565	— 9.5
Total	38,867	41,219	— 5.7	83,113	79,986	+ 3.9



Special Study/ THIS MONTH

HOW GOOD ARE LOCAL CODES, ORDINANCES?

QUITE A NUMBER of oilheating markets have local codes that leave much to be desired from the oilheating dealers' standpoint. This is certainly not true of all markets, but correspondence at the magazine over many years has shown considerable dissatisfaction on this score.

We asked the dealers this time, first if they must operate under a code and we find that seven-eighths of them do have codes. The high point was in the mid-Atlantic states where 96% of the reporting group is in markets with codes.

Next we asked if they consider their code to be a good one, and 73% of the dealers say that it is. That does not mean that they consider it perfect, but rather it is as favorable as can be expected under market conditions. Thus, we have only about a quarter of the dealers saying that their codes are definitely unsatisfactory.

Specific Yardsticks

Next we set about to learn if the codes mention specific yardsticks for combustion efficiency based on the common types of measure. We learned from this that 24% of the dealers work under codes that specify a minimum CO_2; then 22% of the dealers have codes stating maximum stack temperatures; and 36% of them explain that their codes and ordinances establish a definite smoke rating.

These three measurements which apparently affect from a quarter to a third of all codes would tend to show that the vast majority of codes attempt only the more general aspects of control.

Just a little over half of all reporting dealers believe that their code favors fuels other than oil. Among the group that feels that way, 86% say that it favors gas and 14% believe that their code favors electric heat. Notice that these percentages refer not to all dealers, but to the half that believe other fuels are favored.

Comments on this question include the following: "Most towns have no code on gas heat; gas piping must be installed by licensed plumber." . . . "The New York City code increases the cost of oilburner installation by 25% to 33%." . . . "Gas requires no inspection or permit." . . . "The finger of the utility appears in restrictions." . . . "Cellar switches, low water cut-off, thermal cut-off all required by oil but not by gas." . . .

"Low voltage limit controls allowed, no emergency switch required for gas." . . . "Meter board and entrance service unfair." . . . "At present, there are no controls over gas, coal or electricity." . . . "The gas boys get away with a lot more political favors." . . .

As a measure of the importance of outside influences that the dealers feel are responsible for unfair provisions in their codes, we find that 58% say that it is the gas company; 27% say it's the plumbers' unions; and 15% blame the electrical unions.

Oddly enough the sheet metal workers' unions scored less than 1% in this tally.

Then we asked the group if they believed their local code requires them to do things that they consider unnecessary for a first class installation. The score here is that 36% of the reporting dealers believe that this is the case in the market.

Examples of what they have in mind include these.

"Excess vault requirements in one or two towns." . . . "The regulation that forces a licensed and bonded oilburner installer to hire a licensed plumber to make a hot water hookup." . . . "The red tape of permits from the air pollution administration, fire department, housing & buildings, etc., make it very difficult." . . .

"Pre-wired jobs must be in #14 wire; oil lines must be buried, vent lines 1¼″." . . . "Increased wiring, location of equipment, chimneys." . . . "Meter board changes to 100 amp or more." . . . "Boiler room and chimney." . . . "Chimney requirements should be in line with other fuels." . . .

On the other hand just a few of the dealers feel that the code in their market is too loose, and does not do enough to protect the buyer. There were only a handful of comments on this point. . . .

"Need stricter license requirements." . . . "Stricter supervision." . . . "Need conformity of 'fill'—front or immediate side delivery required with adequate venting." . . . "There is no control of quality and only electrical inspection." . . . "Use of forced draft fan when draft cannot be maintained in breeching to .04″." . . .

Association Action

Logically the most active effort on municipal codes is handled through a special committee for the purpose in the local trade association of oilheating. We find this to be true in 57% of the communities heard from.

Then we learned that in 29% of these communities the local association committee is working to get revisions to make the code more equitable.

The following comments show some of the things the committees are trying to accomplish in code revision.

"We are trying to get the local code revised because it requires that abandoned buried tanks must be removed, not filled with sand or cement." . . . "Plumbing & electrical—to be encompassed by a master heating code allowing licensed personnel of oil dealers to

install all types of heating without interference." . . . "Filing of plans on tank installation larger than 275 gals.; and use of threaded brass pipe on domestic hot water hookup." . . .

"Make all fuel come under the same code; oilfired furnaces are required to have an approved fire extinguisher, but other fuels aren't. Also code calls for gas to have a Class A flue which is not being enforced." . . . "Limit burner aprovals to one board." . . . "Connections for domestic hot water." . . . "Legal right to hook up water lines." . . .

At the end of the reports from the cooperating dealers, they added quite a number of opinions or impressions on the order of these—

"If gas came under codes it would be better for oil men." . . . "Finding and checking all jobs for enforcement of the code is the problem; outside of the city everything is okay." . . . "We should not allow project homes to become 'captive' by either eliminating chimney or designing heating equipment for B chimneys." . . . "We need a national group to assist in sound practices for simplified code acceptance." . . .

"Neither the Underwriters nor City make an inspection that means anything for quality or safety." . . . "Adequate safe house wiring should be the entire responsibility of the electric utility—not the oil company; legislation is needed to require inspection by fire department annually of all gas installations—a plugged chimney could mean poisonous fumes being exhausted right into the cellar or house through the diverter." . . .

"Two of our biggest gripes are that the gas company could install conversion burners without draft regulators or low water cutoffs, and are not made to change the meterboard when outmoded. This gives them a large price advantage." . . . "They do not enforce the code in this city."

Oilburner Permits*

APRIL 1961		Four Months 1960	1961
1	Albany, N. Y.	2	4
6	Baltimore, Md.	74	40
32	Bridgeport, Conn.	175	104
2	Columbus, Ohio	3	4
30	Detroit, Mich.	109	147
24	Elizabeth, N. J.	60	64
4	Freeport, N. Y.	57	22
87	Hartford, Conn.	165	211
9	Irvington, N. J.	33	28
21	Meriden, Conn.	61	64
3	Milwaukee, Wis.	54	36
7	Minneapolis, Minn.	52	37
6	Montclair, N. J.	25	33
1	Morristown, N. J.	6	5
25	Mt. Vernon, N. Y.	87	76
19	Newark, N. J.	137	88
35	New Bedford, Mass.	240	155
..	New Haven, Conn.	53	..
2	New Rochelle, N. Y.	38	6
..	Norfolk, Va.	93	..
..	Omaha, Neb.	11	..
6	Orange, N. J.	20	12
1	Passaic, N. J.	9	8
15	Paterson, N. J.	29	45
45	Philadelphia, Pa.**	346	193
44	Portland, Me.	103	121
44	Portland, Ore.	266	215
1	Poughkeepsie, N. Y.	30	12
31	Providence, R. I.	110	156
25	Richmond, Va.	188	177
18	Roanoke, Va.	146	103
13	Rochester, N. Y.	175	80
6	Rockville Centre, N. Y.	9	12
14	Salem, Mass.	154	95
15	St. Louis, Mo.	164	97
0	St. Paul, Minn.	26	14
6	Schenectady, N. Y.	21	20
19	Spokane, Wash.	109	83
33	Springfield, Mass.	187	222
9	Stamford, Conn.	37	29
25	Washington, D. C.	152	104
8	White Plains, N. Y.	29	27
9	Wilmington, Del.	67	45
42	Worcester, Mass.	162	170
0	Yonkers, N. Y.	45	5
	Matched Totals	3,962	3,169
	Percent Change		—20.0

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

**Courtesy of "Philadelphia Inquirer."

Hydronics becomes part of English Language

HYDRONICS has appeared for the first time in a major dictionary, definite proof that it has become a permanent part of the English language, reports the National Better Heating-Cooling Council, New York, N. Y.

Introduced just four years ago as a new term for the hot water heating industry's products and services, "hydronics" is listed on page 713 of the latest edition of *Webster's New World Dictionary.*

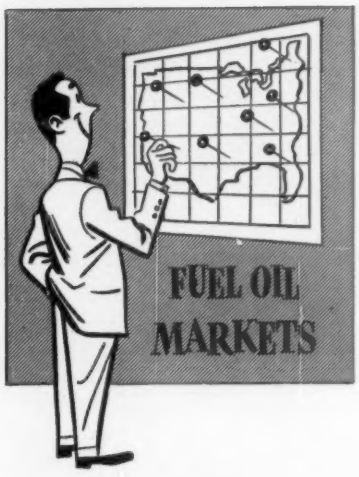
All segments of the industry worked together during the past four years to establish the word, with the trade press playing a leading role in making the word well known throughout the industry. Originally, the term was limited to use within the industry, but it is now widely used in consumer advertising and is accepted by most editors of consumer publications.

Where is the

New Home Market?

	No. of Permits Issued Feb. 1961	2 Mos.
Alabama	743	1,545
Arizona	1,276	2,892
Arkansas	290	483
California	13,412	28,816
Colorado	1,318	2,591
Connecticut	606	1,508
Delaware	39	116
District of Columbia	265	371
Florida	4,505	9,402
Georgia	1,185	2,624
Idaho	73	160
Illinois	4,337	6,232
Indiana	655	1,381
Iowa	260	505
Kansas	382	770
Kentucky	319	605
Louisiana	671	1,304
Maine	12	38
Maryland	1,133	2,436
Massachusetts	623	1,222
Michigan	1,592	2,739
Minnesota	636	1,252
Mississippi	227	599
Missouri	1,155	1,978
Montana	119	245
Nebraska	392	881
Nevada	443	984
New Hampshire	25	66
New Jersey	1,508	2,719
New Mexico	370	652
New York	3,660	7,368
North Carolina	722	1,410
North Dakota	56	69
Ohio	1,961	3,334
Oklahoma	576	1,208
Oregon	533	1,145
Pennsylvania	1,015	1,988
Rhode Island	63	156
South Carolina	144	267
South Dakota	52	133
Tennessee	833	1,711
Texas	4,252	8,574
Utah	332	700
Vermont	8	10
Virginia	1,448	3,206
Washington	1,021	1,991
West Virginia	71	122
Wisconsin	595	1,181
Wyoming	44	80

These figures are collected by the Census Bureau from selected areas. They represent approximately 77% of all dwelling construction in the United States.



THE PRICE TABLE this month shows that the spring bargain season is with us all along the Eastern Seaboard. Temporary voluntary allowances of .5¢ are now in effect from Maine to South Carolina at the tank car level. In the Midwest tank car prices were down an average of five points at several cities. Tank wagon changes showed Charleston up .3¢, Indianapolis down 1¢ and Milwaukee down .7¢.

The accumulation of degree-days from September 1 through April 30 shows that they have averaged out pretty much in spite of the very cold weather of mid-winter. The East Coast was 3.4% colder than normal, and 3.7% colder than last year. In the Midwest, the season was only 0.3% colder than normal, and 4.5% warmer than last year. Weighting these two sections of the country together, the area East of the Rockies had 2.4% more degree-days than normal, and 1.1% more than last year.

Primary stocks appear to be relatively stable with the variation only 1% less than last year. However, the East Coast stocks were 12.4% below the same date a year ago, and the Midwest, 8.7% higher.

Distillate Fuels

PRIMARY STOCKS*
(Thousands of Barrels)
East of Rockies

	May 12 1961	*May 13 1960*
East Coast	26,166	29,864
Midwest	27,892	25,654
Gulf Coast	17,499	16,718
Total	71,557	72,236

*American Petroleum Institute.

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of May 10, 1961

	Tank Car†	*Tank Wagon*
Portland, Me.	10.7A	15.8
Boston	10.6A	15.5
Providence	10.6A	15.1
Hartford	10.85A	15.8
New Haven	10.5A	15.2
Syracuse	11.3A	15.1
Albany	10.7A	15.2
New York	10.5A	14.9
Newark	10.5A	14.9
Philadelphia	10.5A	14.9
Baltimore	10.5A	15.1
Wilmington, N. C.	10.9A	14.6
Washington	10.5A	15.4
Richmond	10.85A	14.5
Charleston, S. C.	10.9A	14.9
Chicago	9.5*	15.1
Detroit	10.0*	15.1
Cleveland	12.0*	15.5
Minneapolis	9.929	15.2
St. Louis	10.10A*	15.7
Indianapolis	10.14*	14.7
Milwaukee	9.66*	14.2
Des Moines	9.65	15.3
San Francisco	12.05*	14.8
Portland, Ore.	10.825*	15.1
Seattle	10.6*	15.2
Spokane	12.2*	16.8
Los Angeles	11.55*	14.3

Tank wagon prices shown are for maximum one-time delivery discounts.

* Delivered.

A Price subject to TVA of .50¢ gal.

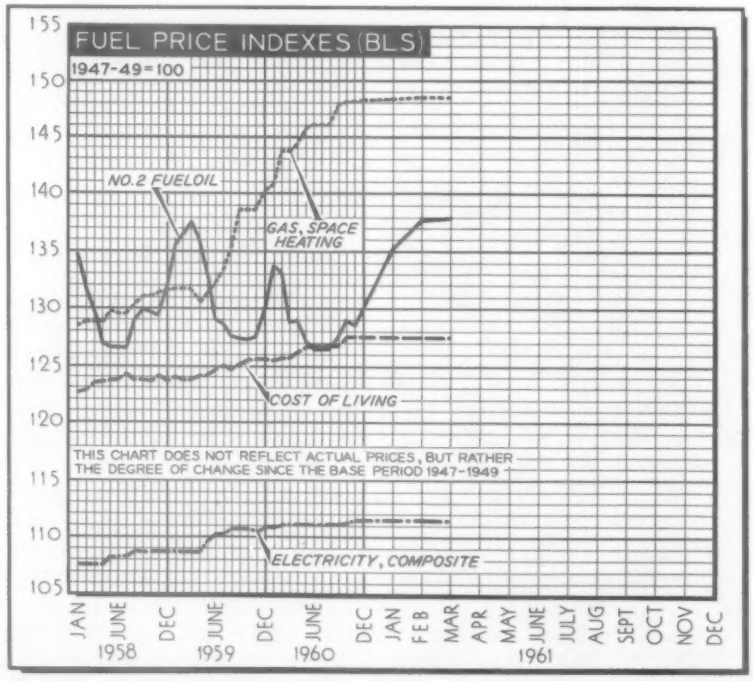
†Tank car prices are typically those paid by fueloil distributors as a purchase price. On the West Coast, this term more often indicates a retail sale to a large commercial account. This usually is a half cent below tank wagon price.

Degree Day Table

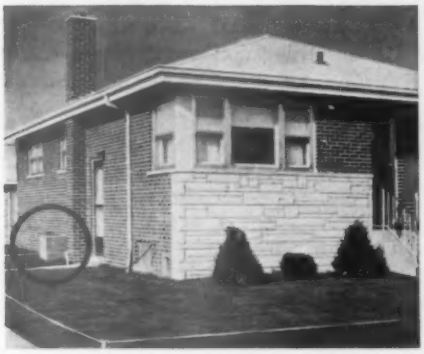
—SEASON TO DATE—
Sept. 1-April 30

	Norm.	*1961*	*Percent Change**
Albany AP	6642	6860	+ 3.3
Atlanta AP	2806	3026	+ 7.8
Baltimore CO	4130	4323	+ 4.7
Boston AP	5506	5616	+ 2.0
Buffalo AP	6405	6728	+ 5.0
Charlotte, N. C. AP	3176	3410	+ 7.4
Chicago AP	6023	5699	— 5.4
Cincinnati CO	4424	4829	+ 9.2
Cleveland AP	5727	6141	+ 7.2
Dallas AP	2272	2319	+ 2.1
Denver AP	5765	5650	— 2.0
Des Moines AP	6183	6081	— 1.7
Detroit AP	6085	5969	— 1.9
Grand Rapids AP	6652	6332	— 4.8
Hartford AP	5893	6484	+10.0
Helena AP	7552	6550	—13.3
Houston AP	1388	1320	— 4.9
Indianapolis AP	5405	5637	+ 4.3
Kansas City AP	4769	4625	— 3.0
Los Angeles CO	1364	798	—41.5
Louisville AP	4340	4773	+10.0
Milwaukee AP	6593	6723	+ 2.0
Minneapolis AP	7489	7764	+ 3.7
New Orleans CO	1175	1187	+ 1.0
New York CO	4828	4932	+ 2.2
Omaha AP	5948	5721	— 3.8
Philadelphia CO	4430	4547	+ 2.6
Pittsburgh CO	4898	5124	+ 4.6
Portland, Me. AP	7099	7261	+ 2.3
Portland, Ore. CO	3847	3509	— 8.8
Providence AP	5783	5905	+ 2
Roanoke, Va. AP	4071	4284	+ 5.2
St. Louis AP	4587	4813	+ 4.9
Salt Lake City AP	5552	5228	— 5.8
San Francisco CO	2275	2317	+ 1.8
Sault Ste. Marie AP	8517	8164	— 4.1
Seattle CO	3991	3689	— 7.6
Toledo AP	6077	6235	+ 2.6
Washington AP	4246	4512	+ 6.3

* Compared with normal.



HERE'S PROOF!
COOL HOUSES MEAN HOT SALES!



"No other built-in has the impact that air conditioning has had on my sales," reports Arnold Levy, Chicago builder. Mr. Levy also says that more than 50% of sales are from friends and relatives of present homeowners.

Short supply and return air ducts connect the Thermo-Center heating and cooling equipment to trunk ducts which run the length of the house.

In 20 minutes, two men connect cooling unit to furnace through a prefabricated wall sleeve. Equipment costs are reduced . . . no refrigerant piping to worry about. Factory-designed connection insures proper operation.

Here's dramatic evidence that the Carrier Thermo-Center heating-cooling installation boosts house sales for your builder-customers. Look at the impressive results Arnold H. Levy, builder of Chicago's Castle Homes, obtained with the Carrier Thermo-Center:

- in the past year, sales of Castle Homes were up 20% while Chicago house sales in general were down 30%.
- appraised value of Castle Homes has risen considerably . . . more than the low cost of the Carrier Thermo-Center.
- banks allow a proportionately higher mortgage.
- builder, as a result, need offer much less secondary financing.

And here's why Carrier Thermo-Center is specified on all Castle Homes:

- no water supply or drain piping.
- no refrigerant lines.
- simplified ductwork and wiring.
- simplified through-the-wall mounting of air conditioner with prefabricated wall sleeve and transition assembly.
- less installation time and labor.
- less than five square feet of valuable floor space.
- fits next to an outside wall, saving more floor space.

Other builders throughout the country report the same results—the Carrier Thermo-Center costs little more than a heating installation . . . costs less than many other heating-cooling installations . . . requires minimum servicing . . . and is a tremendous sales feature.

This is the season when the Carrier Thermo-Center can be an emphatic sales clincher for you. Get the full story today on Thermo-Center applications for all the houses your builder-customers are erecting—ranch, split-level or multi-story homes. Call your Carrier distributor listed in the Yellow Pages. Or write Carrier Air Conditioning Company, Syracuse 1, N.Y.

Carrier *Air Conditioning Company*

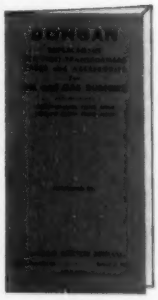
DONGAN
Oil Burner Transformers

. . . . . Custom Built to your Specifications

Dongan ignition transformers are standard on leading oil burners; approved by U.L. and C.S.A.; available in many sizes, domestic and industrial. Features include high voltage windings; cool centers; no interference; custom design. Just send us a blueprint of the type of mounting you need!

Get this New Portable Transformer Tester!

You'll like the convenience of Dongan's new test unit. Included: high voltage potential transformer; voltmeter; pair of high tension test leads; pair of primary leads. For bench or field work, easily portable — weighs just 15 pounds. *Write for prices.*



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SEND FOR YOUR FREE TRANSFORMER CATALOG TODAY

The Dongan Line Since 1909

DONGAN ELECTRIC MANUFACTURING CO.

2981 Franklin St., Detroit 7, Mich.

Names in the News

Paul M. Augenstein has been elected executive vice president, American Standard, New York. He will direct activities of the company's home equipment and industrial products divisions in the United States. His business experience includes three years as president of Airtemp, and 23 years with the General Electric Co. Augenstein is a director of the Air Conditioning and Refrigeration Institute and a trustee of the National Warm Air Heating Association.

Earl R. Trevor has been named director of Manufacturing, Bryant Manufacturing Company, Indianapolis, Ind. Trevor, who has been with the company since 1954, will have overall responsibility for manufacturing a full line of products, including furnaces, airconditioning equipment, boilers, and automatic valves.

Orville K. Schmid has been appointed manager, New England marketing region, The Atlantic Refining Company, Philadelphia, Pa. He succeeds *Harold W. Jollie*, who has retired after 34 years with the company.

The company also announced three additional marketing appointments: *J. M. Connelly* advances to district manager at Wilkes-Barre, Pa., succeeding *E. D. Walter* who becomes district manager at Boston, and *M. C. Balliet* has been appointed direct marketing manager for the Philadelphia, North and South Jersey districts.

E. R. Bjornestad has been named Southwest Division Manager, Ralph N. Brodie Company, San Leandro, Calif. In his new capacity, Bjornestad will be responsible for administration and direction of BiRotor meter, and Brodie Control valve sales and service in Texas, Oklahoma, Louisiana, Arkansas, and Tennessee.

Frank A. Kolb has been assigned the duties of manager, retail merchandising, Standard Oil Company (Ohio), Cleveland, Ohio. Kolb, who has been advertising manager for the company since 1952, will also continue in this capacity.

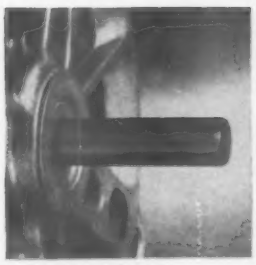
John J. Poyatt has been named manager, Wholesale Distribution, Warren Webster & Co., Inc., Camden, N. J., manufacturers of heating and cooling equipment. Poyatt has been associated with the organization for the past five years, spearheading a program of wholesaler development.

A. J. Gilbreath has been appointed midwestern regional sales manager, airconditioning division, Westinghouse Electric Corporation, Pittsburgh, Pa. In his new post, Gilbreath will be responsible for marketing of commercial, residential and industrial heating and cooling equipment. He will be located in Chicago, Ill.

Douglas Mueller has been designated director of Public Relations and Advertising, Borg-Warner Corporation, Chicago, Ill., succeeding the late *Donn Sutton*. In his new position, Mueller will direct corporate public relations and advertising activities, working from the Chicago headquarters.

John W. Murray, Jr., has been elected a director and vice president, Burnham Corporation, Irvington, N. Y. Murray is general sales manager of the Heating and Cooling Division. The company also announced the election of *Gerard A. Weiss* and *Benjamin W. Drew* as directors of the corporation. Weiss takes the place, on the board, of his father, *A. P. Weiss*, who was re-elected a vice president and secretary.

INSTALL IT! FORGET IT!

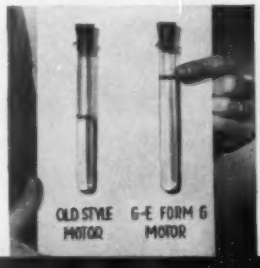


SHAFT PROTECTION—new gun-metal-like treatment of shaft resists rust so the blower is always easy to remove.

AIR-SHIELD DESIGN transmits heat swiftly, greatly reducing "trip-outs" that result in time-consuming service calls.

FAST ROTATION CHANGE cuts your inventory in half. Simply reverse leads ("A" to "B").

4-YEAR LUBRICATION at factory practically eliminates rewiling. Motor has doubled oil supply.



It's that simple when you use General Electric oil burner motors

General Electric oil burner motors will give years of reliable service on the oil burners you install, service, or build. These long-life motors help eliminate many call-backs and emergency service calls . . . increase your customers' satisfaction in you.

Here are five reasons why General Electric oil burner motors give long life: 1) four-year lubrication at the factory; 2) special air-shield design; 3) rust-resistant shaft; 4) wear-resistant switch; and 5) moisture-resistant Mylar* polyester film insulation.

All these extra-value features are yours when you specify "G-E motors" on the oil burners you buy. They're also ideal for replacement purposes. For more information, write Section 722-09, General Electric Company, Schenectady 5, N. Y.

* Registered Trade-mark of DuPont Co.

Progress Is Our Most Important Product

GENERAL ELECTRIC

At the business end (or side) of your trucks

ROCKWELL "T-SERIES METERS" ARE PROFIT

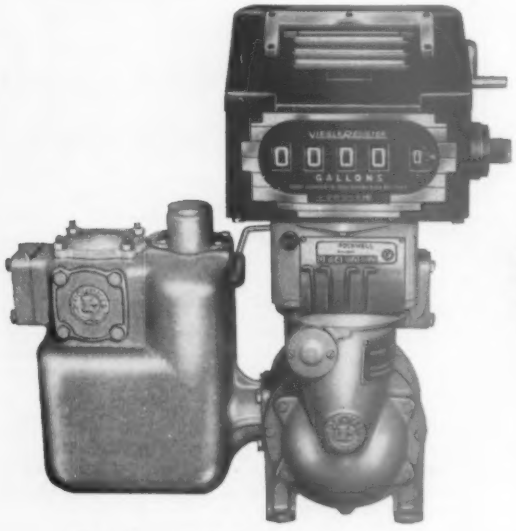
You'll find metering the *compact* Rockwell way a profitable experience. Older meters can't match its dependable accuracy. Other designs can't match it for economy and convenience in service—for easy installation.

The Rockwell meter rotor revolves on anti-friction bearings, silently, smoothly and without metal-to-metal contact to cause wear. The accuracy and dependability of the measuring unit is protected in two ways (1) by an efficient air release that removes all vapor and (2) by a strainer having a large screening area. All three elements—the meter rotor, the air release and the strainer—are accessible by removing a few cap screws.

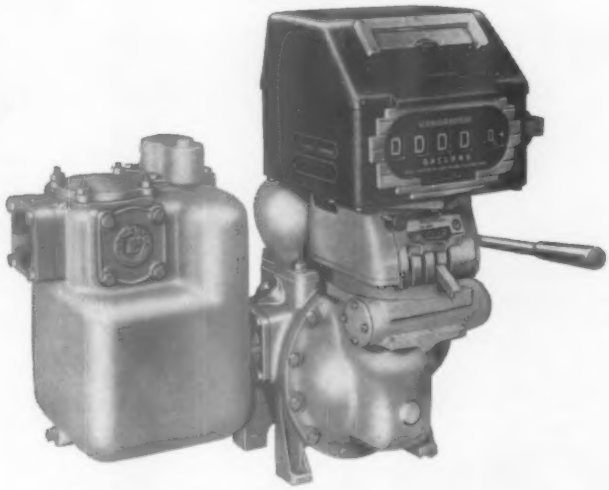
Lightweight castings and compact dimensions keep bulk to a minimum. You have the option of three inlet connections and two outlets to simplify installation.

Ask your jobber or tank manufacturer to demonstrate Rockwell "T-Series" Meters. Write us direct for bulletin P-100-13. Rockwell Manufacturing Company, Dept. 122F, Pittsburgh 8, Penna. In Canada, Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

TANK TRUCK METERS
another fine product by
ROCKWELL



Rockwell T-70 Meter Unit
(Capacity 70 gpm)



Rockwell T-120 Meter Unit
(Capacity 120 gpm)

BUILDERS

BIGGEST VALUE
IN THE INDUSTRY

KORTH

OIL POWERED
WATER HEATER

KORTH offers the biggest value in the industry for oil powered water heaters . . . check these outstanding features:

- ✓ Glass lined tanks with 10 year warranty
- ✓ Copper tanks with 15 year warranty
- ✓ Sizes 30, 45, 50, 65, & 70 gallon
- ✓ Recovery rates from 120 to 180 gph
- ✓ Equipped with KORTH SHELL HEAD BURNERS.

SILENT KORTH OIL HEAT

High volume water supply generators also available from 300 to 3000 gph.

WRITE TODAY FOR COMPLETE INFORMATION ON THE QUALITY LINE OF KORTH EQUIPMENT.

ECKHART MFG. CO., INC.
UNION, NEW JERSEY

Robert Mitchell has been elected president of Sid Harvey of N. J., Inc., the third largest company in the Sid Harvey group. He replaces *Henry Wollwerth,* who is being recalled to the head office for staff work.

Mitchell has been with the organization for fifteen years, serving most recently as president of Sid Harvey of Albany, Inc. *Richard Schwarz* will succeed Mitchell in the Albany post.

Richard A. Matthews has been named sales supervisor, Heating and Air Conditioning Products, Sales to Manufacturers Marketing Division, Owens-Corning Fiberglas Corp., Toledo, Ohio. He will be responsible for sales of filters, as well as thermal and acoustical insulations. His responsibilities include also developing applications of Fiberglas-reinforced plastics for heating and airconditioning equipment.

Len Conrad has been elected president, Heil-Quaker Corporation, Nashville, Tenn. Conrad had been with the Heil Company of Milwaukee, Wis., for 23 years before he joined Heil-Quaker, where for the past two years he has been executive vice president and general manager.

William Naas has been named sales engineer, residential controls, General Electric's Appliance Control Department, Morrison, Ill. In his new position, Naas is responsible for sales of the department's line of controls for domestic warm air, hot water and steam heating systems as well as controls for other special purpose applications.

W. E. Nelson has been elected vice president and general manager, Heater and Tank Division, John Wood Company, Conshohocken, Pa. Previously, Nelson served the company as vice president and general manager of the Superior Metalware Division. He will make his headquarters at the company's Chicago plant.

The company has also announced the appointment of *Victor Mauck, Jr.,* as general manager of the Conshohocken Division, where he was previously factory manager.

William P. Balthrop has been appointed president of Chrysler Corp.'s Airtemp Division, Dayton, O. He joined Chrysler in 1944 and has held many positions of responsibility in the corporation. For the past year he has been president of the Amplex Division.

Fred R. Ellenberger has been elected vice president—International Operations, Worthington Corporation, Harrison, N. J., succeeding *S. Riley Williams,* who is retiring. Ellenberger joined Worthington in 1938, serving the company most recently as Assistant vice president—International Operations.

Richard W. Burkman has been named district sales manager, Houston District, Tokheim Corporation, Fort Wayne, Ind., replacing *Jack D. Patterson* who has resigned. In his new position, Burkman will supervise the Tokheim Houston district selling organization and will be responsible for all sales in the district.

Robert J. Krieg has been appointed Midwest regional sales manager, Jet-Heet, Inc., Englewood, N. J. Krieg will sell the company's heating and cooling systems from the Canadian border to the Tennessee line and from Ohio west to Iowa and will also be responsible for conducting sales schools for distributors and dealers. The company also recently named *Hy Appleton* and *Robert Hull* to the posts of direct district sales manager and southeastern regional sales manager, respectively.

Hildebrand & Associates named as representatives by Maid-O'-Mist, Inc., Chicago, Ill., for central and Northern Ohio, with headquarters at Elyria, Ohio.

The company has also appointed *James-Cooke & Associates* as representative for New Mexico and western Texas, with headquarters at Albuquerque, New Mexico.

Stop "short changing" yourself by quoting competitive equipment only. Give your customer the choice of a top-quality unit, too – such as this Model 219 oil heating unit. *Its value overshadows price* . . . gives your customer a wider margin of benefits, gives you a wider margin of profit. Tell prospects about features like these, and they'll want to pay the difference . . .

TRIPLE-TESTED HEAT EXCHANGER — Scientifically designed to provide extra-long travel of flue gases and more heat transfer. Provides longer life, more efficient use of fuel for greater economy.

QUALITY THAT OVERSHADOWS PRICE — Quiet, reliable performance: volume air delivery; Thermoseal construction and insulation throughout; clean-burning, turbulated-flame oil burner. Styled for immediate sales appeal in attractive two-tone green.

PROFIT-MAKING OPTIONS — Unit engineered for these total-comfort options: full summer air conditioning. Filter Flag and light on thermostat indicate clogged filters, three filter options: chemically-treated disposable, charcoal for odor removal, or built-in electronic filter.

Mueller Climatrol means quality — and quality means profit!

Mueller Climatrol
DIVISION OF WORTHINGTON

MC-82A

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fueloil & oilheat

INSTALVELOPE

ENDS BUDGET ACCOUNT HEADACHES FOR YOU— AND YOUR CUSTOMERS!

Speeds Budget Collections:

Payment Coupons with envelope attached are bound in Customer's Payment Record Book and provide immediate and positive identification of account and excellent posting medium.

Experience has proved use:

1. Increases payment on due date by average of 3 days per payment.
2. All information available for crediting account.
3. Eliminates correspondence and errors.
4. Customers like courtesy, efficiency and convenience.

Advertises Your Products:

Provides powerful and economical means of advertising your other products and services to a known and complete "captive" audience at pre-determined intervals throughout the year.

Thousands of Instalvelopes in use from coast to coast!

Write or wire us for sample Book and complete information:

EFFECTIVE TOOLS FOR EFFECTIVE MANAGEMENT

ETEM

WASSELL ORGANIZATION, INC.

WESTPORT 9 · CONNECTICUT

Tear off

Please send me without obligation, sample book and complete information.

NAME .....

COMPANY .....

ADDRESS .....

CITY & STATE .....

When fueloil Customers move, Spaulding Yates holds the Accounts

EVERY YEAR fueloil distributors and dealers lose a substantial volume of business because customers move from their homes.

Government statistics show that 21% of the people in the United States change homes each year. This percentage is greater in the cities, less in the rural areas.

Thus, more than 10% of the average fueloil dealer's customers move out and are replaced by "move ins." It has been estimated that 80% of those "moving in" sign contracts with dealers other than the one who had been serving the old customer.

The reason: Dealers find it difficult to obtain the names and addresses of those planning to move in before the new customers have made other arrangements for oil.

Harry Lang, Sales Manager, Spaulding Yates Co., Buffalo, one of Western New York's large distributors, has developed a unique program to solve this problem.

The program has increased re-signs from less than 20% to approximately 90% and continues to maintain this rate month after month.

Lang launched the new plan in July 1960. Spaulding Yates previously had tried a variety of gimmicks and devices to boost its re-signs, including premiums, giveaways and even cash. But none of them did the job. "We forgot about the power of the women in this particular," said Mr. Lang. It was decided to use a drawing card with particular feminine appeal. Nylon hosiery was the answer.

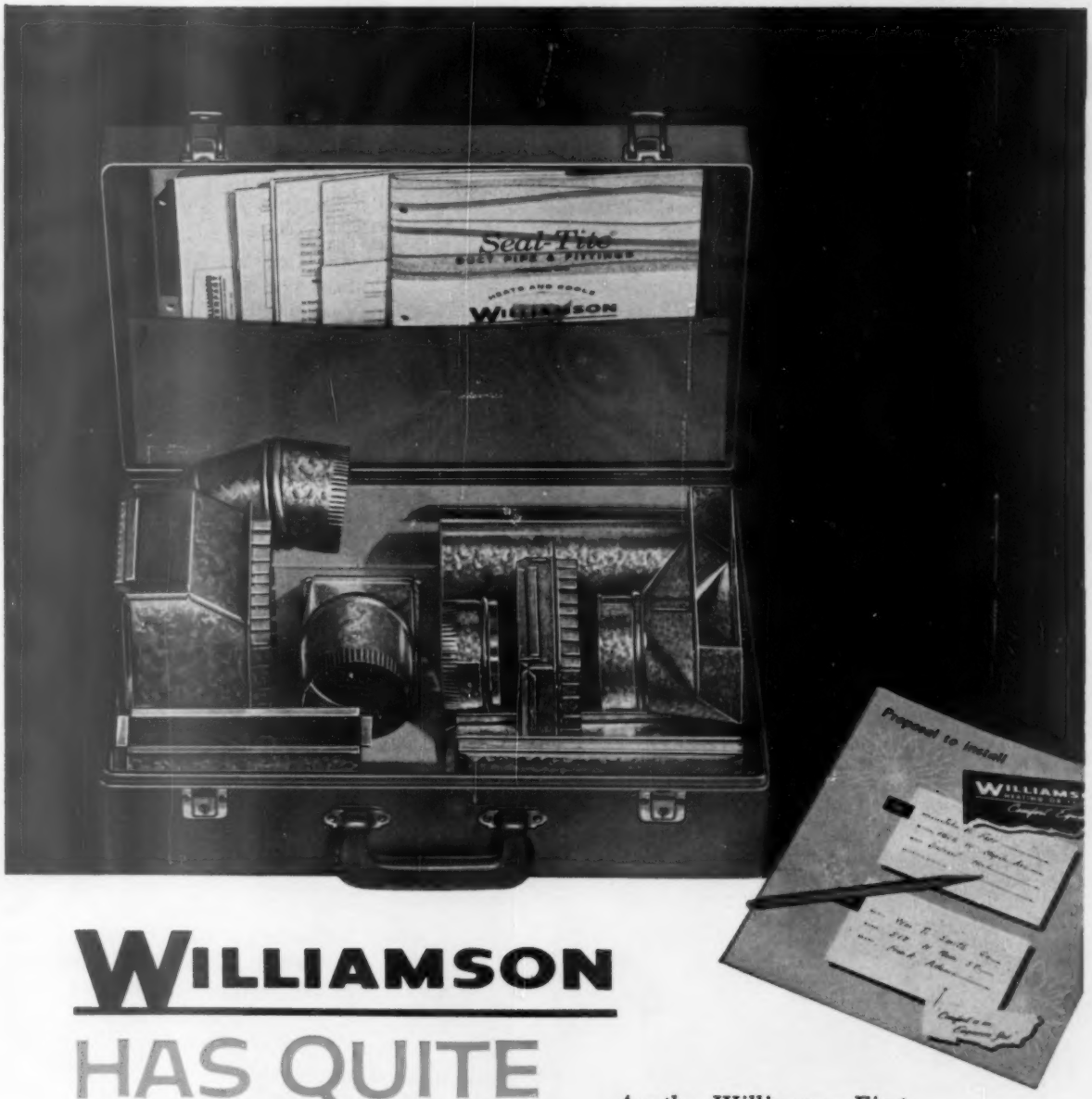
Lang worked out his plan in conjunction with the National Hosiery Company, Buffalo marketing firm. The plan is simple, easy to operate, and the cost is low for the results achieved. The woman moving out receives a gift of three pairs of hose for very little effort. So does the woman moving in.

Ordinarily, any family planning to move or even thinking of selling their home calls the fueloil dealer and asks to be placed on Will Call. When such a call comes in, Lang inquires if the customer knows who will replace them in the home.

At that stage of the operation, few customers know who their successor will be. Lang has a salesman call within a day or two. The salesman explains the gift of hosiery to the woman moving out and leaves a Bow Card which is self explanatory.

The Bow Card points out that

Harry Lang, sales manager, (left) goes over program to increase re-signs with M. A. Young, Fueloil Division general manager. Looking on is C. A. Haines.



WILLIAMSON HAS QUITE A CASE!

THE WILLIAMSON COMPANY
3312-V-18 Madison Road, Cincinnati 9, Ohio

That is quite a case! I'm interested.
Send information to me . . .

Name_____

Address_____

City_____ Zone____ State_____

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Another Williamson First

Actual *miniature* Seal-Tite® fittings — perfectly hand crafted . . . a remarkable new approach to clinch your heating or cooling sales at a greater profit!

Now you can take fittings into the home and demonstrate why your exclusive Seal-Tite air distribution system will do a far better job in providing home comfort. Here's just another exclusive reason for being a Williamson Dealer!

Send coupon for information or contact your local supplier

BOSTON-APTHORP has EVERYTHING YOU EXPECT of an OIL BURNER NOZZLE!

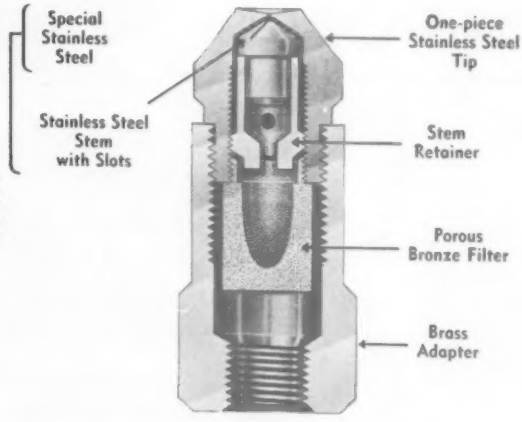
1. Complete and perfect atomization.
2. Individually tested, BOSTON-APTHORP Nozzles deliver the correct gallonage, angle and type of spray, as marked.
3. Nozzle tip made of one-piece stainless steel, resulting in: (a) Uniform expansion and contraction. (b) Less heat conducted to the inside of nozzle than with brass, thus eliminating varnish build-up on inside vital parts. (c) Long life because stainless steel is tougher.
4. Fractional gallon sizes furnished standard with porous bronze filter.
5. Available in hollow and solid spray and standard angles of spray 30°, 45°, 60°, 70°, 80°, and 90°.

HOLLOW SPRAY

The hollow spray nozzle is designed for burners delivering a hollow air pattern. All of the atomized spray is delivered to the outside of the cone of spray.

SOLID SPRAY

The solid spray nozzle is designed for burners delivering a solid air pattern. The atomized oil is delivered equally throughout the entire cone of spray.



STOCKED BY LEADING DISTRIBUTORS

For details write to:

BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Div.
7-17 WILLOW STREET
LYNN, MASSACHUSETTS

neither party receives the free hosiery until a new contract has been signed. The customer may either phone or mail the card. The Bow Card message begins in this manner:

"Yes, three pairs of lovely, luxurious, first quality hosiery of your choice for just a small favor. Since you are planning to move from your present home, we would appreciate the name and address of the folks that will be moving in, so that we may continue to service them with their fueloil needs as we have done for you.

"We have a gift of three pairs of hosiery for the new people as well as for yourself and you can see from the back of this card that there are six styles, two colors, fourteen lengths and sizes from which to choose."

Selling New Owner

The recipient is urged to inform the newcomer of the good service received from Spaulding Yates. "Then, either call or fill in the card on the opposite side, giving the name and address of the new family and mail it to us."

As soon as Spaulding Yates service has been accepted by the new family, the company sends a card good for the three pairs of hosiery to both parties. The women fill in the card and mark selections. The postpaid hosiery then are sent immediately.

Swatches of the nylons showing colors are featured on the Bow Card. Cover on the card reads: "A Gift For You From Spaulding Yates." The hosiery is sent directly from the National Hosiery Co.

Initially, Spaulding Yates experimented with phone calls and mailings to place the Bow Card in the home of the moving family. But a personal visit by the salesman had better results.

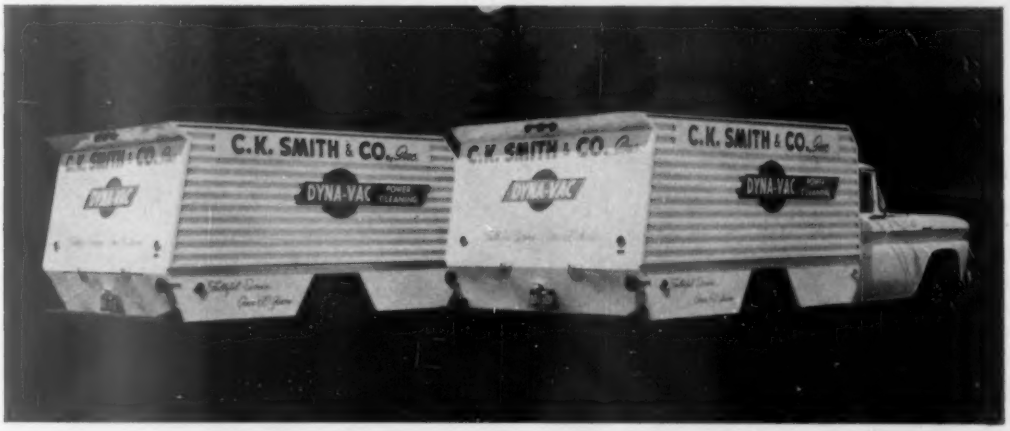
The suggestion in the Bow Card that the customer inform the new family of good service from Spaulding Yates has paid off nicely. The company finds that prospective customers thus contacted already are pre-sold by the present occupant and are prepared to sign the contract readily.

Lang, a veteran of the fueloil business, says he is amazed at the efforts women will put forth to qualify for the hosiery.

Women will call or write in even

QUESTION:

Can a Power Cleaner SELL OIL?



ANSWER:

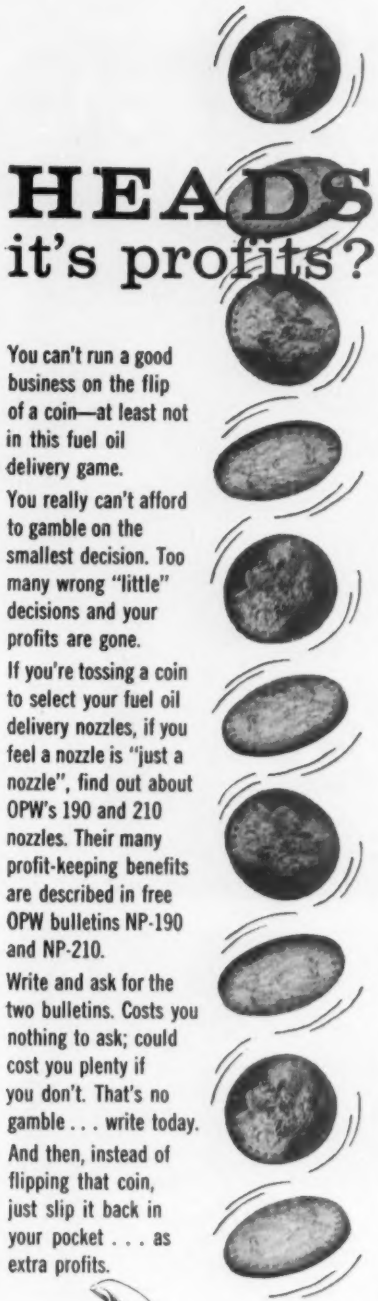
Ask the man who OWNS ONE!

DYNA-VAC POWER CLEANING

WRITE

DELAMATER MANUFACTURING CO.

ROCKFORD, ILLINOIS



HEADS it's profits?

You can't run a good business on the flip of a coin—at least not in this fuel oil delivery game.

You really can't afford to gamble on the smallest decision. Too many wrong "little" decisions and your profits are gone.

If you're tossing a coin to select your fuel oil delivery nozzles, if you feel a nozzle is "just a nozzle", find out about OPW's 190 and 210 nozzles. Their many profit-keeping benefits are described in free OPW bulletins NP-190 and NP-210.

Write and ask for the two bulletins. Costs you nothing to ask; could cost you plenty if you don't. That's no gamble . . . write today.

And then, instead of flipping that coin, just slip it back in your pocket . . . as extra profits.

DOVER CORPORATION OPW DIVISION

2723 COLERAIN AVENUE • CINCINNATI 25, OHIO • KIrby 1-5400

Valves, Couplings, Specialty products for handling hazardous liquids

when there has been a long interval between the Will Call request and learning who is moving in.

If the new family is moving in from out of town, they are sent an explanatory letter, including a contract to sign and a hosiery order card. Invariably the signed contract comes back long before the new customer moves in. This keeps the prospect out of the reach of competitors. Spaulding Yates has received contracts from all parts of the country.

The letter to the new customer reads, in part:

"Mrs. Smith of this community was kind enough to tell us that you are planning to move into the home she is vacating.

"As you know, your new home is heated by an automatic oil furnace for which we have been supplying the heating oil for quite a number of years. Mrs. Smith has been so pleased with our service that when she called to terminate the deliveries it was suggested that we write about continuing to supply you with your fueloil requirements.

"A record has been maintained, not only of the fuel consumed but of any service work that has been required. You receive your oil deliveries automatically, plus round the clock burner service seven days a week during the heating season.

"Enclosed you will find a fueloil agreement which is standard in the industry and a credit application. By signing and sending these in now, it will be one matter more than will be out of the way, as well as assuring you of a continuity of service."

The bonus hosiery offer is explained in a P.S. on the letter.

The following cost analysis of the plan is based on a dealer having 1,000 home fuel customers and that he is successful in re-signing all "move-ins":

Number of home fueloil customers	1,000
10% average move-outs per year	100
20% national average retention of move-ins.	20
Number of move-ins to be signed up by Plan—8% of all customers	80
Average number of move-outs per month	7
Cost of Bow Cards and envelopes for 7 per month at 10 cents each	$ .70
Cost of Selection Order Card, good for three pair of hosiery. Total 14 needed at $2.05 each	$28.70
Total monthly cost	$29.40

With seven accounts totaling $29.40, the cost for each re-signed customer is $4.20.

The Selection Order Cards may be returned at any time to the marketing firm for a refund of $2 each.

Why has hosiery worked so effectively for Spaulding Yates? Lang cites these reasons:

Women buy hosiery four to eight times each year. The average purchase per family is 18 pair a year. Sixty million dozen pair are sold annually in the United States. Women are constantly in the market for hosiery. Most women feel they spend too much for hosiery. They readily respond to the thrift and savings appeals in hosiery premiums.

An appealing feature of the deal is that Spaulding Yates carries no inventory and makes no commitment.

Underwriters' will Test Type L venting System

UNDERWRITERS' LABORATORIES is now accepting applications for test of oil burning appliances in combination with the newly proposed standard for the Type L Low-Temperature Vent System.

The system will be tested by UL as an integral combination of both appliance and vent. The appliance will be misadjusted for fuel and air flow and no temperature in the flue may exceed 550°F during any steady-state conditions nor can it exceed 700°F during an abnormal ten minute interval when such tests as adding soot burnout compound will be tried. It is felt that forced and induced draft appliances will have a good chance of passing the rigorous test. It is also believed that if research uncovers a burner which will not make soot when misadjusted, this too might pass even if a larger vent is used.

It is also intended that the vent will be tested in conformance with present procedures for Type B gas vents, with which the new L vent will be competitive.

A written standard will be prepared after tests have been run on equipment which is being submitted to UL by manufacturers who have been working on the project.

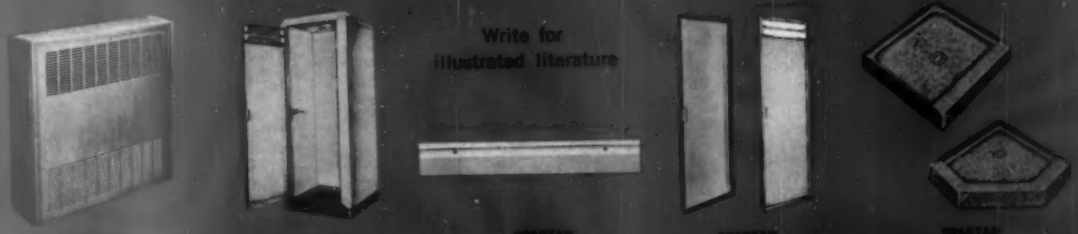
PENNIES ARE BIGGER THAN EVER

. . . in the eyes of today's consumer. He insists on full value for every penny he spends. You can be sure you're giving it to him when you sell SPARTAN PRODUCTS. SPARTAN manufactures with that extra care in every step. That's why the name SPARTAN means "the best value penny for penny."

SPARTAN

SPARTAN SHOWER STALL CO., INC.
SPARTAN CONVECTOR CO., INC.
SPARTAN ELECTRIC RADIATOR CORP.
52-55 74th ST. • MASPETH 78, N.Y.

Write for illustrated literature



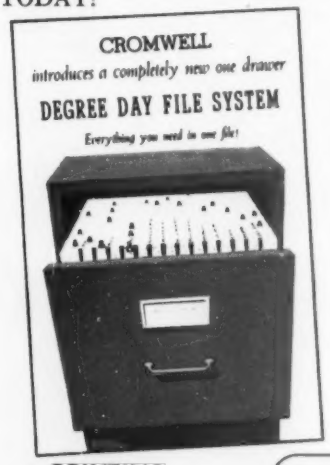
SPARTAN Convectors
SPARTAN Electric Radiators
SPARTAN Shower Stalls
SPARTAN Baseboard
SPARTAN Electric Baseboard
SPARTAN Glass Shower & Tub Enclosures
SPARTAN Shower Receptors

FREE

CROMWELL'S COMPLETE BUDGET PLAN KIT

It's ready now, and it's bigger and better than ever! Cromwell's big Budget Plan Package shows you *3* colorful prospect letters, *3* different sales folders and forms for budget computation, contract and customer payment records. Every item is personalized for your business and every one has been tested and proved *successful by dealers throughout the country.*

The budget plan selling season starts right now! Your customers and prospects are receptive and you have more time to sell, service and follow-up leads. Prompt delivery can be made on every item, but don't put it off! ORDER YOUR FREE BUDGET PLAN KIT TODAY!



GET THE FACTS ON CROMWELL'S NEW DEGREE DAY FILE SYSTEM

Learn how it works, how little it costs and how much more efficient degree day records can be. Full size sample forms show how easily you can keep every customer record in *one file.* The catalog is FREE. Order yours when you send for the Budget Plan Kit.

PRINTING SPECIALISTS FOR FUEL OIL DEALERS

cromwell printery inc.

CHURCH AND BLEECKER STREETS, ALBANY 1, NEW YORK

Fitzgibbons Boiler sold to the S. H. Pomeroy Co.

FITZGIBBONS BOILER CO., New York, N. Y., has been sold to the S. H. Pomeroy Co., Stamford, Conn., manufacturers of steel and aluminum windows, curtain walls and convector enclosures.

Rex D. Cross, Pomeroy president, announced that Fitzgibbons was acquired by the purchase of 90% of the company stock from Paul K. Addams, president, and the estate of Homer Addams.

Pomeroy plans to utilize the Fitzgibbons plant at Oswego, N. Y., for the continued manufacture of the Fitzgibbons line of domestic and commercial steel heating boilers. A part of the plant may be used for the manufacture of convector enclosures.

Paul K. Addams will continue with Pomeroy as a consultant and as a company director.

Pomeroy has indicated a determination to enter vigorously into the boiler business. Cross points out that Pomeroy has the staff and sales force to make Fitzgibbons a leading supplier of steel heating boilers.

J. L. Minner awarded API appreciation Certificate

AT THE MIDYEAR meeting of the Marketing Division, American Petroleum Institute, J. L. Minner, Shell Oil Co., was awarded a certificate of appreciation for his service as a former chairman of the Fueloil Committee and chairman of its research subcommittee.

Also receiving awards at the meeting in Bal Harbour, Fla., May 16-19, were R. Cubicciotti, Witco Chemical Co., Inc., and Willard W. Wright, Sun Oil Co. They were recognized for their service to the petroleum industry as it is connected with the automotive field.

Unitary airconditioning Installations up in 1960

THE COOLING INDUSTRY continues to be a bright spot in the nation's overall business picture, the Air-Conditioning and Refrigeration Institute, Washington, D. C., reports.

Unitary airconditioning installations, which includes all central residential equipment, as well as some smaller

only this much more

buys this much difference

The little extra you pay for Purolator filters buys features and performance you just don't get in ordinary filters. The picture shows you the difference; here's what this difference means to you:

❶ Nozzles last longer because the Purolator Micronic element filters out abrasive particles as small as 0.0005 of an inch. A waste-type filter medium, no matter how much it's compressed, simply can't filter that fine, even when it's new.

❷ Filters last longer (a year or more without servicing) because every Purolator filter has over 200 square inches of filtering surface, enough to filter over 7,000 gallons of fuel oil without replacement.

❸ No channeling or unloading, ever, because the Micronic element is precision made from a single pleated sheet of resin impregnated cellulose that resists water and acid, won't shrink, stretch, distort, flake or deteriorate.

❹ No spillage, no air leaks. The depressed head on the Purolator housing eliminates spillage when servicing. The recessed gasket seal makes an airtight fitting between case and head.

And because Purolator filters filter better, longer, you make fewer trips, have fewer problems fulfilling your service contract. For full information, write to Dept. 2577.

Filtration For Every Known Fluid

PUROLATOR

PRODUCTS, INC.

RAHWAY, NEW JERSEY AND TORONTO, ONTARIO, CANADA

THE NEWEST REASON TO MAKE YOUR NEXT TRACTOR A FORD:

ALL-NEW FORD H-SERIES GAS OR DIESEL

FORD DIVISION, *Ford Motor Company*

Ford H-Series tractors offer a choice of five Super Duty V-8's or four proven Cummins Diesels for maximum performance, economy and durability! Over 500 engine-transmission-axle combinations provide "job-fitting" economy on any run.

New Ford H-Series tractors have a short 28-in. BA for hauling maximum legal loads in most "bridge formula" states. And their compact 82-in. BBC dimension accommodates longer high-cube trailers. For greater payloads within their 76,800-lb. maximum GCW range, strong lightweight components are used wherever consistent with maximum durability. Extra-hi-tensile steel frames, fiberglass cab skirts, aluminum steering gear housing, and optional aluminum disc wheels, transmission cases and fuel tanks are typical examples of Ford's weight-saving design.

Ford H-Series models are quality-built to the most exacting standards in the industry. They're the only tractors with gas engines so dependable they're dealer-warranted for 100,000 miles. And maintenance-engineered design means fewer downtime delays . . . lower maintenance costs.

SEVEN MORE REASONS

WHY IT'S GOOD BUSINESS TO DO BUSINESS WITH FORD!

You save from the start with Ford's traditionally low prices, and your savings continue with low operating and maintenance costs. These facts are documented by certified test reports from America's foremost independent automotive research firm. Ask to see these reports. They're on file at your Ford Dealer's.

In addition to these dollar-and-cents savings, the following bonus benefits are yours with Ford Trucks:

1. **Rigid quality controls** give you the strongest safeguard of truck reliability ever. Modern, *exclusive-truck* manufacturing facilities, with emphasis on quality every step of the way, are designed to give you a Ford Truck that is as free from defects as a truck can be. Tangible results of these high standards are Ford's new warranties.

2. **Exclusive 100,000-mile warranty** (or 24 months) on 401-, 477- and 534-cu. in. Super Duty V-8's is the most liberal in the industry. Each major engine part (including block, heads, crankshaft, valves, pistons, rings), when engine is used in normal service, is warranted by your dealer against defects in material or workmanship for 100,000 miles or 24 months, whichever comes first. The warranty covers full cost of replacement parts . . . full labor costs for first year or 50,000 miles, sliding percentage scale thereafter.

3. **12,000-mile warranty** (or 12 months) on all 1961 Ford Trucks of every size is further evidence of the confidence Ford has in its quality controls. Each part, except tires and tubes, is now warranted by your dealer against defects in material or workmanship for 12 months or 12,000 miles, whichever comes first. The warranty does not apply, of course, to normal maintenance service or to the replacement in normal maintenance of parts such as filters, spark plugs and ignition points.

4. **Special fleet financing** can be arranged by your Ford Dealer. It's available for owners of two or more trucks, and provides the opportunity to precisely tailor payments to your income patterns or depreciation schedules. This fleet-fitted financing offers substantial savings and frees your working capital.

5. **Sales engineers and service specialists** in 36 district offices are on call to solve special truck problems. Working with both dealers and customers, these experienced truck men represent another extra step Ford takes to provide your continued satisfaction.

6. **Replacement parts depots** at 26 strategic locations across the country quickly supply needed parts from ample stocks. Ford's entire supply system is geared to give you faster service and reduce costly downtime . . . *wherever* you are.

7. **6,800 Ford Dealers,** including 280 specialized Heavy Duty truck dealers, can keep your trucks ready to go wherever they go. From coast to coast, fast Ford service—gas *and* Diesel—is always close at hand.

From Super Economy pickups to Diesel-powered tractors, you can now fill every truck need up to 76,800 pounds GCW with a modern, money-saving Ford Truck.

QUALITY-BUILT...MAINTENANCE-ENGINEERED

FORD TRUCKS COST LESS

fuel oil & oilheat

NOW!
QUIET AUTOMATIC
HI-RECOVERY
OIL-FIRED
HOT WATER
HEATERS
COPPER LINED Heaters
Guaranteed
15 YEARS
GLASS LINED Heaters
Guaranteed
10 YEARS

THREE
SIZES
30
50
70
Gallons Storage
All with Hi-Recovery features. Other sizes up to 270 Gals. per hr. recovery.
HI-TEST
GALVANIZED
(A.S.M.E. Labeled)
Hi-Test — Glass Lined
125 gals. to 650 gals.
per hour recovery
Same Day Shipments
From Warehouse Stocks
A PRODUCT OF
QUIET AUTOMATIC
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CHICAGO — BALTIMORE
BOSTON — CHARLOTTE, N. C.
JACKSONVILLE & MIAMI, FLA.

commercial and industrial applications, showed an increase of about 10% over the 1959 figure in 1960, with more than 60% of the installations going into residences. Large systems installations, such as those used in big office buildings, also showed an increase of about 12% in 1960 over 1959.

NOFI offers insurance Coverage for Dependents

NATIONAL OIL FUEL INSTITUTE Insurance Trust, formerly the Oil Heat Institute of America Insurance Trust, has extended the coverage offered to members to include wives and children of employees. Life insurance for wives of employees of participating companies is being offered at a monthly rate of 74¢ per thousand dollars. Insurance for employees children is being offered at 50¢ per thousand dollars, regardless of the number of children.

Information about Dependent Insurance, as well as all other NOFI insurance programs, may be obtained from Insurance Trust, National Oil Fuel Institute, 60 East 42 Street, New York 17, N. Y.

New research Projects are assigned by API

THE AMERICAN PETROLEUM Institute, New York, N. Y., has selected five organizations to work on the principal projects of a special oilburner research program.

The research groups and the projects on which they will work are: Armour Research Foundation, Chicago: air-fuel mixing and recirculation; Arthur D. Little, Inc., Cambridge, Mass.: new means for fuel atomization; Atlantic Research Corp., Alexandria, Va.: ways to minimize deposits during vaporization of No. 2 heating oil; Battelle Memorial Institute, Columbus, O.: more suitable ignition systems, air compressors and fuel pumps for small oilburners; and Stanford Research Institute, Menlo Park, Calif.: the effects of spray-droplet size on combustion.

This phase of the research program will develop, interpret and disseminate new technical information that will assist equipment manufacturers in producing improved equipment using distillate fuel.

NOW...
THE NEW, IMPROVED
VECO
ELECTRONIC
COMBUSTION
ANALYZER
CHECKS ALL THREE
ON ONE METER
...IN SECONDS
✔ CO_2 CONTENT OF FLUE GAS
✔ STACK TEMPERATURE
✔ DRAFT OVER FIRE

New engineering improvements make VECO portable combustion analyzer better than ever — faster, more accurate, easier to use! A precision instrument designed for installation and service men to obtain maximum heating efficiency on any type of oil, gas or coal furnace.
✔ Direct reading time is less than 10 seconds
✔ All 3 functions on 1 instrument
✔ One meter, one dial with 3-scale readout
The VECO Combustion Analyzer allows more service calls per day without mistake and elimates needless repeat calls.
FREE!
Write for folder Y588 with complete details on all models of the new, improved VECO combustion analyzer.

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ENGINEERING CORPORATION
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WHISTLER
(actual size)
another fine product from the makers of Galongage, Guardian, and Fil-Thru.

PROGRESS! WHISTLER

FILL-SIGNAL

If you have tanks piped without audible fill-signals, you can now install the latest and finest — the WHISTLER! Model E is the only whistle which can be installed without disturbing the present piping. Takes only a few minutes during a routine call or summer check-up. Model D is for new installations.

Cost is so nominal you can equip all your jobs for fast, safe deliveries.

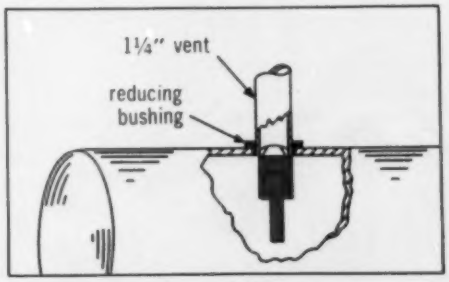
WELL BUILT Completely protected against corrosion. Lasts indefinitely. An engineering triumph for you by Applied Mechanics Company.

SAFE The Whistler is Underwriters Approved. Gives top performance without fail. Has been thoroughly field-tested nationally. Pitched for ideal, easy-to-hear signal. Gives less back-pressure than do competing exhaust signals, should tank be over-filled for any reason.

EASY TO HANDLE The Whistler is more compact; lighter than ¼th the weight of competing signals. Takes less storage space. Costs less to ship. Can be installed in a jiffy. *Only one size E and one size D to stock.*

LOWER PRICED The Whistler's exclusive design and manufacturing process permit lower price to bring you easier sales, more sales, and greater profits. When the Whistler is used with the Guardian or other fractional-reading gauge, you have *all the advantages of two separate instruments at less cost than a combined signal-and-gauge.*

Write for prices and complete information.



APPLIED MECHANICS COMPANY

whose current engineering personnel have been prominent among pioneers in automatic oil heating equipment since 1919 — gauge makers since 1937.

381-389 CONGRESS ST.
BOSTON 10, MASS.

fuel oil & oil heat

DISTRIBUTORS WANTED!

KLEEN-AIR IS EXPANDING to cover the nation with our NATIONALLY ADVERTISED power suction furnace cleaners

'come on in - the money is fine' if you qualify for our top commissions. See our advertisement on page 43

Kleen Air

KLEEN-AIR INCORPORATED
Payne, Ohio
A Subsidiary of Kent-Moore Organization, Inc.

Address Correspondence to:
General Sales Manager
28635 Mound Road
Warren, Michigan

Wisconsin Group has management Conference

MEMBERS of the Wisconsin Petroleum Association, Madison, Wis., attended the organization's 1961 Management Conference, held at the University of Wisconsin, May 2 through 4.

A principal speaker at the meeting, Aden P. Williams, Reseller Sales Manager, Esso Standard Division, Humble Oil & Refining Company, New York, discussed merchandising and operations in the fueloil business. Other speakers included J. J. Lichty, L. T. White, W. P. Marquam, M. E. Citrin, and John Shields.

Fuel Cell is discussed at Springfield Meeting

THE ANNUAL industry dinner meeting of the Oil Heat Council of Western Massachusetts, Inc., Springfield, Mass., was held May 9, at the Sheraton Motor Inn, Springfield.

Walter O'Connor, General Electric Company, Lynn, Mass., discussed latest developments in the fuel cell being manufactured by that company, and William E. Kramer, Gulf Research Center in Harmarville, Pa., described the new Gulf oilburner which was displayed and demonstrated at the meeting.

Long Island Association designates Officers

OFFICERS FOR THE coming year have been selected by Oil Heat Institute of Long Island, Hicksville, N. Y. They are: Leonard Braun, president; Jim Wells, vice president of Nassau; William Kenny III, second vice president; Gene F. Fusco, vice president of Suffolk; William Kampfer, second vice president; James Mulligan, treasurer; and Robert Allyn, assistant treasurer.

The Long Island Petroleum Credit Managers Association held a meeting May 25, at the Flagstone Restaurant in Hempstead. The association meets once a month to discuss credit problems and swap solutions.

APCA to hold 54th Annual Meeting in N. Y. in June

THE 54TH ANNUAL Meeting of the Air Pollution Control Association, New York, N. Y., is scheduled for June 11 through 15, at the Commodore Hotel, in New York.

Technical papers to be delivered at the meeting will cover health, community surveys, instrumentation and instrument development, incineration, and fuels.

N. J. Association has deliveries Workshop

A WORKSHOP FOR owners, office managers and dispatchers in the fuel oil industry called "The Travels of the Delivery Ticket" was held May 23, at the Essex House, Newark, N. J., by the Fuel Merchants Association of New Jersey, Newark.

The moderator was Robert Crane, Reel-Strong Fuel Company, Cranford, and panelists were T. R. Loizeaux, Jr., Nelson Thompson and William G. Dixon, who discussed in detail the degree-day system, coding and zoning and preprinted tickets.

The group is tentatively planning another workshop devoted to service on June 28, called "Better Control Means Better Service."

Hartzler main Speaker at Michiana Meeting

FUELOIL MEN in the Michigan-Indiana area attended the 1961 Spring Meeting of the Michiana Oil Heat Institute, South Bend, Ind.

A feature of the session was a talk by Dr. J. E. Hartzler, who spoke on sales, service and public relations.

Chicago Oil Men's Club plans June Golf Outing

GOLF WAS the major business of the day at an outing sponsored by the Chicago Oil Men's Club, Chicago, Ill. The affair was held at St. Andrews Golf and Country Club June 1. Jack Davey, Balcrank, Inc., was in charge of reservations.

ATTENTION FUEL OIL DISTRIBUTORS

INSTANT INVOICING

NEW LOCKHEED COMPUTING REGISTER CAN INCREASE YOUR PROFITS BY 15%

Here's how...

INSTANT INVOICING with Lockheed Computing

INSTANT INVOICING—a complete invoice is calculated and printed automatically, right at the point of delivery!

The amazing new Lockheed Computing Register, installed on your trucks, prints a complete, accurate invoice the instant oil delivery is completed. The driver simply inserts the ticket and turns the handle; makes the delivery; then turns the handle back. The invoice is calculated and printed automatically. Result—*Instant Invoicing* gives you *new profits through savings* in these 3 important ways:

1. CUTS DELIVERY COSTS—Lockheed's Computing Register prints a complete invoice in less than a second. Saves at least a minute per delivery. Makes your trucks more productive. Your driver does not waste time calculating and then filling in the delivery ticket. He just cranks the handle. *Instant Invoicing* can substantially reduce delivery cost—probably your single biggest expense.

2. SAVES BILLING EXPENSE—the Computing Register makes the delivery ticket your customer's invoice. It instantly does all the figuring—with or without sales tax or discounts. Think how this can reduce your overhead! It saves unnecessary billing, cuts clerical time required for checking and extending delivery tickets; and for typing, handling and mailing invoices. It provides record copies for you, too. *Instant Invoicing* means faster settlement of accounts receivable and elimination of costly errors.

3. REDUCES "LOST" GALLONAGE—the Register computes *tenths* of gallons. If you have been rounding off your figures to the nearest lower gallon, you have been taking a beating on "lost" gallonage. With the Computing Register, you get paid for *every* drop of oil you deliver. This extra feature of *Instant Invoicing* can add up to a tidy *extra* profit for you each season.

Total profits through savings

The LEC Computing Register is the subject of a pending patent application.

Register earns extra profits for you in 3 ways!

FACTS AND FIGURES show you how Instant Invoicing builds extra profits through savings.

The three major benefits of *Instant Invoicing*—savings on (1) delivery cost, (2) billing expense, (3) "lost" gallonage—each earn you an extra fraction of a cent per gallon, fractions that add up to important extra profits. Below we show how *Instant Invoicing* with the Lockheed Register works for the "average" fuel oil distributor. Of course your operation is different, but the savings definitely apply to you, too!

SAVE ONE MINUTE PER DELIVERY and you get an extra 25 minutes of "free" truck and driver time every day. Here's how it goes: the average truck makes 25 drops a day. With *Instant Invoicing* you save *at least* one minute per delivery. This means you get an extra 25 minutes a day and you cut the average delivery cost of 1.23¢ per gallon by 6%. Your profit through savings—.072¢ per gallon.

REDUCE OVERHEAD by cutting billing expenses. The average fuel oil distributor processes 15,000 invoices per heating season through his clerical staff. With *Instant Invoicing*, you can easily cut this in half and reduce your clerical needs. Since typical office overhead costs run .97¢ per gallon, reduction of clerical time can save you as much as 10% of your overhead costs. Your profit through savings—.097¢ per gallon.

CHARGE FOR TENTHS OF GALLONS and you increase your earnings yet another way with *Instant Invoicing*. If you round off an average of only a quarter of a gallon at every delivery (and it's usually more), you're losing about 63¢ per day, per truck. That's more than 1% of your gross profit! With the Lockheed Computing Register figuring tenths, your profit through savings—.012¢ per gallon.

PLUS...

...THESE OTHER IMPORTANT BENEFITS

CUSTOMER CONFIDENCE. Your customers get a printed invoice that they *know* is complete and accurate. They respect this service, prefer to do business with an up-to-date outfit that handles invoicing efficiently and accurately.

EMPLOYEE GOODWILL. Your drivers will appreciate *Instant Invoicing*. It saves them the discomfort of standing around in bad weather, going through a calculating chart, and then filling out a delivery ticket.

COMPUTATION OF TAX AND DISCOUNT. Rates are assigned in advance at the office through use of notched delivery tickets. The register computes accordingly—automatically. Your driver does not have to be an accountant. Saves work for your billing department. Eliminates another source of error.

EASE OF OPERATION. It's a cinch to use! Just insert the ticket and turn the handle before, then after, delivery.

PRE-SET COUNTER. Gallons to be delivered at any given stop can be pre-set. Turns off pump automatically. May instead be used to indicate gallons left in truck.

TOTALIZER. Separate indicator shows total gallons delivered, total sales tax and total dollar volume of all transactions. It's an easy way to check deliveries at the end of each day.

DEPENDABLE PERFORMANCE. The Lockheed Computing Register is completely mechanical and is designed for season after season of rugged service. It is backed with a full-year warranty by Lockheed—one of the world's largest manufacturers.

IMPORTANT!

See your oil equipment jobber to get all the details on the Lockheed Computing Register. Since this is a brand new product, he may not have it yet. If not, have him contact Computing Register Sales Dept., Lockheed Electronics Co., Metuchen, New Jersey; Telephone LIberty 9-4430.

.18¢ per gallon!

PROVED IN SERVICE...

INSTANT INVOICING

with new Lockheed Computing Register proved in use by MEENAN OIL

FIELD TESTS SHOW IMPORTANT SAVINGS, REGISTER PAYING FOR ITSELF FAST

THIS DELIVERY TICKET is ready for the customer. Lockheed Computing Register calculates and accurately prints the invoice.

Since mid-February of the worst winter in a decade, Lockheed Registers have been tested in daily use by Meenan Oil Co. at its Pennsylvania operation and, since early April, on Long Island. One of the largest fuel oil dealers in the country, Meenan reports driver enthusiasm, customer satisfaction and a substantial saving in operating costs.

William F. Kenny Jr., president of Meenan, puts it this way: "Our new Lockheed Registers promise to pay for themselves faster than any other equipment we ever installed. We've already proved that these Registers save at least one minute per delivery. And that means we have been delivering 2,500 more gallons per day, per truck. Our drivers are on an incentive basis and they really appreciate the difference.

"In our multi-state operation," says Kenny, "We find the ability of the registers to compute taxes or discounts, or both, a very helpful feature. It saves time and insures accuracy.

"Here's another point. Since the Lockheed Registers compute costs including tenths of gallons, we're now getting paid for *all* the oil we deliver.

"When we get all our trucks equipped with the Lockheed unit, we'll be able to cut our clerical expenses sharply.

"There's no doubt in my mind that the Lockheed Computing Registers will pay for themselves *fast*—for us or for *any* fuel oil distributor."

FACTS YOU SHOULD KNOW ABOUT LOCKHEED ELECTRONICS COMPANY —manufacturer of the Lockheed Computing Register

Now serving the fuel oil industry, Lockheed Electronics is part of the Lockheed Aircraft Corporation, whose engineering resources are now being applied to a wide array of new commercial and industrial products bearing the name "Lockheed." Among these products is the Lockheed Computing Register that brings you new ways to improve your operation and increase your profits.

See your equipment jobber or contact—

LOCKHEED ELECTRONICS COMPANY

COMPUTING REGISTER SALES • PHONE Liberty 9-4430

METUCHEN, NEW JERSEY

Officers are re-elected by N. J. Fuel Merchants

THE BOARD OF TRUSTEES of The Fuel Merchants Association of New Jersey, Newark, N. J., has announced the re-election of association officers for an additional four year term. They are: A. T. Holmes, Sr., president; Richard Morgan, first vice president; John B. Wade, Jr., second vice president; George Miles, secretary; and William Fluhr, treasurer.

The board had previously extended the terms of incumbent trustees, due to expire in 1961, to April, 1962.

N. C. group institutes burner service Course

THE SIXTH ANNUAL Management Institute, sponsored by the North Carolina Oil Jobbers Association, Raleigh, N. C., April 17 through 20, has been declared a success by the association.

The Wayne County, N. C., group, which is part of the state association, has instituted a basic oilburner servicing course. The 45 hour school, being held at the Industrial Educational Center in Goldsboro, N. C., began May 2, and will continue through June 20.

Delivery procedures Topic of two-day Symposium

A TWO-DAY symposium on advanced fueloil delivery procedures and office automation was presented by the Greater Philadelphia Fuel Conference, Philadelphia, Pa., May 17 and 18, at the Tally Ho Motel, Valley Forge, Pa.

Called the Mid-Atlantic States Oil Fuel Industry Educational Conference, the sessions included talks on such topics as weather control application, dispatching procedures and bulk plant operations.

Westchester OHI plans annual golf Outing

JUNE 15, 1961, has been set as the date of the Oil Heat Institute of Westchester (New York), Inc.'s annual golf outing. It will be held at the Tamarack Country Club in Westchester.

Golf and swimming are on the agenda as are a buffet luncheon and a dinner.

Wes White, ZEPHYR Oil Co., says:

"You make $1 extra per customer per year with the Johnson Fuel Demand Meter"

Wes White clears over $8,000 in 5 years

"I get my $400 investment back 4 times a year," reports Wes White, Mgr. Zephyr Oil Co., Grand Rapids, Michigan.

"That means over $1 extra profit per customer per year. But more important, we have completely ended runouts due to the former degree day system based on limited information.

"The Johnson helps us schedule loads better. It's the best investment per dollar of return we ever made. Has run 5 years trouble free.

"I recommend it to any fuel oil distributor who wants an easy way to increase profits."

Johnson *accuracy* makes the profitable difference

Wes White and many others have found: *Mean* temperatures are no longer enough for figuring oil consumption, especially in mild weather. The Johnson uses *all* weather factors—sun, wind, snow, rain—to give you an *electronically accurate fuel demand* for each customer. Saves office work, improves load handling, usually saves at least one drop per customer per year. Get literature today.

NEW DESK model for both heat and hot water

JOHNSON DEGREE DAY SYSTEM
329 S. PITCHER ST., KALAMAZOO, MICH.

JOHNSON DEGREE DAY SYSTEM 329 S. Pitcher, Kalamazoo, Mich.
Please send me "20 NEW WAYS TO PROFIT BY DEGREE DAYS" with information about your Fuel Demand Meters

Name_____

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handle widely different petroleum products profitably with ROPER PUMPS

Roper Series 3600 truck pumps easily handle both thick and thin petroleum products from crudes to low viscosity gasolines. Two equal-sized, hardened alloy iron, helical gears with accurately machined special tooth forms mesh perfectly to give you positive displacement, positive pumping of your loads. The precise manufacture of these units gives you long, maintenance-free service that pays off in extra deliveries, and you will find Roper pumps step up operating efficiency and step up your profits. Equip your trucks with Roper pumps and you will enjoy more competitive delivery and service.

- **PACKED BOX** or mechanical seal pumps are available to best suit your needs.
- **CAPACITIES** in a wide range of sizes can fill your needs for small deliveries or bulk transport.
- **RELIEF VALVE** permits operator to close discharge during delivery without stopping the pump.

ROPER
HYDRAULICS, INC.

For specific information contact your Roper dealer

Dependable pumps since 1857
COMMERCE, GEORGIA

Oil Water heater sales offer Dealer lucrative Sideline

THE BETTER Heat with Oil Council, Inc., New York, has developed a selling plan for oil-powered water heaters. Joseph A. Loveland, executive director, circulated the program to members through a newsletter. With some editing here are the essential points:

The development of the modern oil-powered hot water heater has opened up a new and lucrative field for oil dealers. Entry into this field assures the dealer of a good summer load, increases each account by two to three hundred gallons a year, and, if payments for installation are made in installments, assures retention of a customer.

An additional benefit to be realized is the development of good customer relations, arising from customer satisfaction with the economy and efficiency of the unit. Going into this phase of the oil business can also help to keep service and installation men busy.

Leads may be developed through a check of your service records. If these do not contain information on the customer's present water heating method, have your servicemen check this the next time he visits the customer. The servicemen can be instructed in the advantages of oil hot water heaters and an incentive plan may be set up providing a bonus for each lead developed or sale consummated.

A booklet, "Oil Powered Hot Water Heaters," first designed by the Better Home Heat Council, Hartford, Conn., tells the story of oil hot water heaters and gives cost comparisons. It is a valuable sales tool in a campaign of this type, to be mailed directly to customers or distributed through sales and service personnel.

Oilmen's Group Observes Anniversary Convention

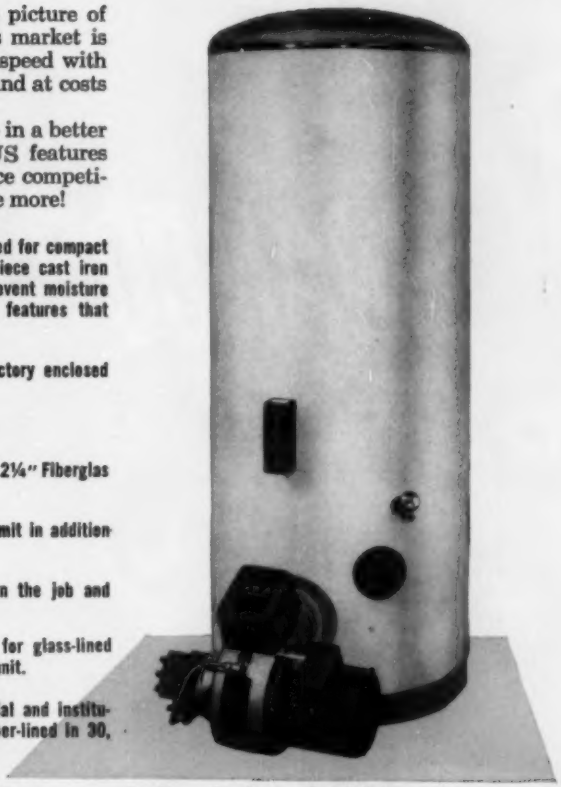
THE PENNSYLVANIA PETROLEUM Association, founded in 1946, celebrated its fifteenth anniversary at their convention, held May 7 through 9, at the Bedford Springs Hotel, Bedford, Pa.

Featured speakers at the convention included Leonard Braun, Halesite, N. Y., who spoke on "Building your Fuel Business," and W. H. Miller, vice president, Marketing, American Oil.

U.S.-CARLIN OIL FIRED WATER HEATERS give you MORE TO SELL ...for MORE PROFIT!

BIG . . . and growing bigger all the time: that's the picture of today's oil-fired water heater business! A tremendous market is opening as the public becomes aware of the amazing speed with which these units produce quantities of hot water . . . and at costs but a fraction of other methods.

You'll want a share of this business . . . and you'll be in a better position to get it with U.S.-Carlin. Check the PLUS features offered by U.S.-Carlin and see how you can outdistance competition with the line that lets you offer more . . . and make more!



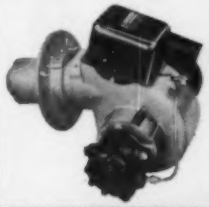
- **MODEL 150F,** a tried and tested U.S.-Carlin oil burner especially designed for compact combustion chambers, assures clean firing, highest efficiency. One-piece cast iron housing, stainless steel air cone, combustion head parts plated to prevent moisture damage, nozzle line of ⅛" heavy-wall brass pipe . . . these are features that spell QUALITY!
- **COMBUSTION CHAMBER,** adequately sized, of high temperature refractory enclosed in steel casing.
- **FLUE LINER** of aluminized steel for longer life.
- **MORE INSULATION** — Tank is completely blanketed, top to bottom, with 2¼" Fiberglas (2½" on 65 and 70-gal. models).
- **PROVISION FOR DUAL AQUASTAT** where requirements call for a high limit in addition to an operating control.
- **COMPACT, MODERN DESIGN,** low in height, permits easy handling on the job and installation in low-ceiling areas.
- **FACTORY WARRANTY** — Tanks guaranteed up to 15 years (10 years for glass-lined models) when used for domestic hot water. Warranty card with every unit.
- **BROAD LINE** — Models to meet every residential and many commercial and institutional needs . . . glass-lined in 30, 50, and 70-gallon capacities; copper-lined in 30, 45, and 65-gallon capacities.

Get all the facts today on U.S.-Carlin Water Heaters . . . the line that's made right . . . and priced right . . . for profitable selling. Contact your wholesaler or write us today.

ALSO ADVANCED DESIGN U.S.-CARLIN OIL BURNERS

"SHELL HEAD" BURNERS TO 12 GPH

PEDESTAL OR FLANGE MOUNTED MODELS



ELECTRONIC CONTROLS, FACTORY MOUNTED

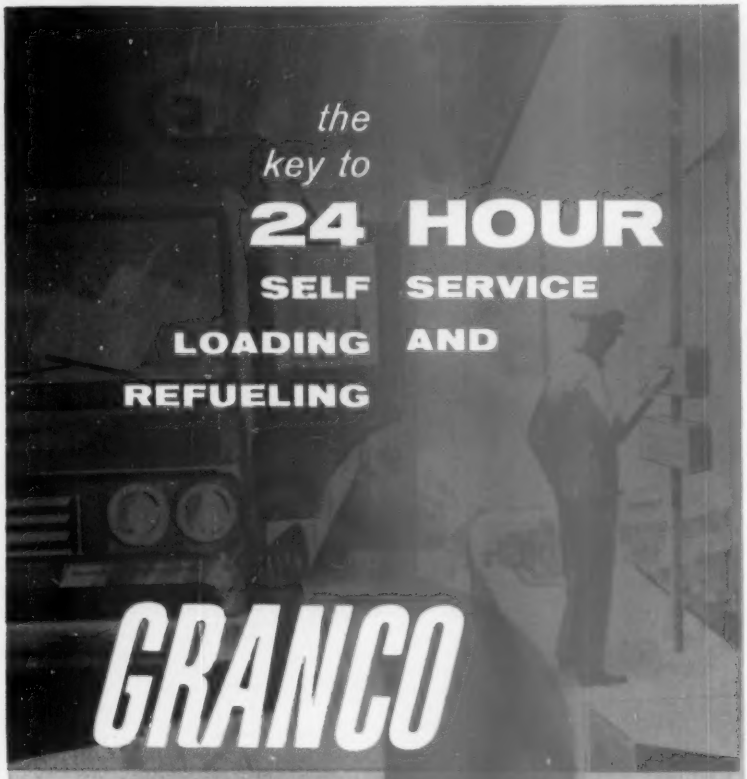
HIGH CAPACITY BURNERS TO 20 GPH

OUTSELLS BECAUSE IT EXCELS

THE CARLIN COMPANY • WETHERSFIELD, CONN.

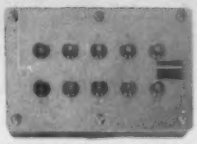
MID-WEST REPRESENTATION COMPLETE BURNER STOCKS AT CHICAGO

U.S.-Carlin burners are listed by Underwriters' Laboratories, Inc. and approved under U.S. Government Commercial Standard CS75-56 where applicable.



ACCOUNTA/KEY® SYSTEM

automatically and accurately records withdrawals



Key Lock Box — explosion-proof design. Prewired and color coded. 10 or 20 Key system; boxes can be manifolded.

Remote Counter Box — Completely prewired. 24 volt D. C. power supply built-in. Contains 10 or 20 individual customer totalizers.

No waiting, no delays. From unattended terminals your customers can load at any hour, night or day. A turn of the key readies your system for each withdrawal. System provides accurate measurement, individual receipts, automatic controls, and a withdrawal record of each customer. Record data is electrically transmitted into your accounting department or any other remote location. Affords instantaneous credit control . . . eliminates multiple postings and billings errors . . . cuts down operating costs.

For details, write for bulletin 1060A.

For all product needs . . . meters, pumps, valves, strainers, accessories, controls . . . specify GRANCO and be sure!

GRANCO CORPORATION

1308 SIXTY-SEVENTH STREET, OAKLAND 8, CALIFORNIA
SUBSIDIARY OF AMERICAN METER COMPANY, INC.

Sales representatives throughout the nation.

MANUFACTURERS ACTIVITIES

A. O. Smith streamlines product operating Groups

IN A REALIGNMENT of operating groups, A. O. Smith Corporation, Chicago, Ill., has formed the Consumer Products Division. All residential and commercial water heaters, boilers and water softeners, under the former Permaglas Division at Kankakee, will now be administered by the new division.

The move was made to provide the organizational streamlining necessary for new product development and greater diversification of water heating and conditioning applications, a company spokesman said.

Sid Harvey burner Catalog receives service Award

SID HARVEY, INC., Valley Stream, New York, received an achievement award for their 250 page catalog of replacement parts for burners because of its outstanding contribution to the servicing of oilheating equipment. The catalog has been published regularly by Sid Harvey's since 1931.

Richard Condon, President of the National Association of Oil Heat Service Managers, Inc., presented the award, which was accepted for the company by Steve Harvey, president, Sid Harvey, Inc.

Williams Holds Factory Airconditioning School

BEGINNING APRIL 4th, Williams Oil-O-Matic Heating Company, Columbus, Ohio, held a four day airconditioning school at its factory in Columbus. Dealers and distributor representatives from ten states attended this school which is designed for the beginner as well as for the experienced installer.

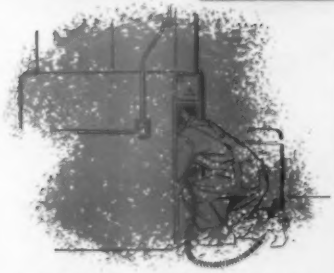
Students learned about the refrigeration cycle, wiring, trouble shooting, new product developments and got installation tips. Carl Bryson, Williams Service Engineer, conducted the school, assisted by James Curran.

FROM THE OLD TO THE NEW

with the most powerful, most thorough type cleaning equipment available

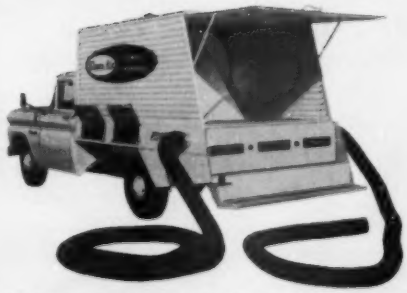
- Kleen-Air is the new concept in furnace and chimney cleaning—designed by servicemen for servicemen.
- A Kleen-Air Unit will keep your accounts for you.
- A Kleen-Air Unit will get you new business.
- Kleen-Air is your answer for the needed extra service successful businesses must offer.

kleen air



From the chimney sweep of old to the hand cleaner of the early 40's was progress—but this is 1961.

The new cleaning concept for the 60's—Kleen-Air—the professional way.



This is the power house of the cleaning industry. Compare power, speed, price and adaptability and convince yourself. Units sold with valuable Trademark rights backed by National Consumer Advertising.

Other models are available to fit any particular need or budget.

For more information and a no-obligation demonstration write or call

KLEEN-AIR, INC.
Payne, Ohio
A Subsidiary of the Kent-Moore Organization, Inc.
Warren, Michigan

See Our Advertisement on Page 34 for a Special Money-Making Offer.

Cost-Conscious Customers? Gentleman Janitor

low initial cost
low operating cost

BARONET — Oil Fired Boiler-Burner Hydronic Heating Unit

74,000 BTU • 87,000 BTU • 108,000 BTU

• Moderate cost because of modern assembly in Gentleman Janitor's own plant • Handsome, modern styling • Lower stack temperatures • Ample hot water • Vertical fire-tube design • Inverted suspended combustion chamber • Exclusive wet-base boiler design • Completely packaged and wired.

CORONET — Oil Fired Boiler-Burner Steam And Hot Water Heat Units

From 87,000 BTU to 297,000 BTU

Completely packaged, wired ready-to-install, oil-fired hot water and steam heating units. Wet-base construction with horizontal rolled fire-tubes, designed to fire without using a combustion chamber. Greater efficiencies, higher CO_2 readings.

PLEASE SEND FURTHER INFORMATION ABOUT GENTLEMAN JANITOR.

Address.....

Name.....

City.....Zone.....State.....

Check one! .....Distributor .....Dealer

GENTLEMAN JANITOR MANUFACTURING CO.
Bell Mountain Station, Scranton 11, Pa.

Air pressure testing of new sectional heat exchangers for oil fired furnaces is viewed by Homer Craig, Robert McMillen, Al Kukish, Earl Forsythe and Frank Szakelyhidi, warm air heating and air conditioning contractors from the Pittsburgh area, during a recent visit to the Elyria, Ohio factory of American-Standard's Air Conditioning Division.

New liquid Blending Described by Blackmer

VARI-FLO PROPORTIONERS and new concepts in continuous line blending are detailed in Bulletin 650, just released by Blackmer Pump Co., Grand Rapids, Mich.

According to the bulletin, the company employs the flow control principle of the variable volume pumps to develop complete proportioning systems which offer savings over alternate blending methods. The new equipment is designed for applications involving total flow rates between one and 2,000 gallons per minute, with larger systems possible by adding more components.

Airconditioning Booklet available from Delco

DELCO APPLIANCE DIVISION is offering a buyers guide to home heating and cooling as part of its promotional program for Comfort by the Houseful 365 Days a Year. The 16-page booklet discusses cooling for both the new home owner and the remodeler; cooling benefits, and describes in detail various units in the GM Delco 365 Conditionair line.

The booklet is available, free, upon request through Delco franchised dealers or directly from Delco Appliance Division, P. O. Box 230, Rochester, N. Y.

Iron Fireman has Meeting for district Personnel

DISTRICT SALES manager and field engineers attended the week-long sales meeting held in Cleveland by the Heating and Airconditioning Division, Iron Fireman Mfg. Co.

Howard M. Cutshaw, general sales manager, outlined some of the ways the Division intends to increase sales: New dealer salesmen and more dealers and distributors will be added—in large numbers; greater stress will be placed on the "Gold Mine Campaign"; and greater emphasis will be put on the Custom Mark II furnace and boiler.

Sid Harvey's plays host to 29 students, graduating from the Oil Heat and Power Technician Course of the Oil Heat Institute of America in Springfield, Massachusetts. A guided tour of the plant was part of the visit as were demonstrations of the repairing of defective units and testing procedures.

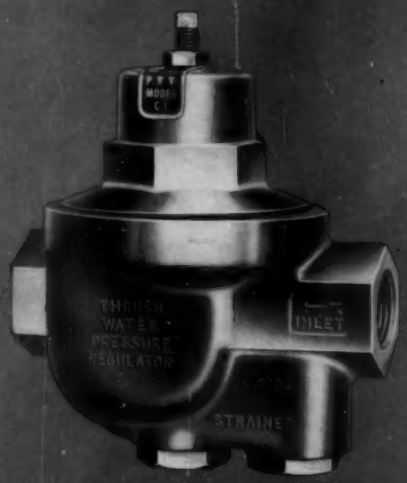
Protect

PLUMBING FIXTURES AGAINST HIGH WATER PRESSURE

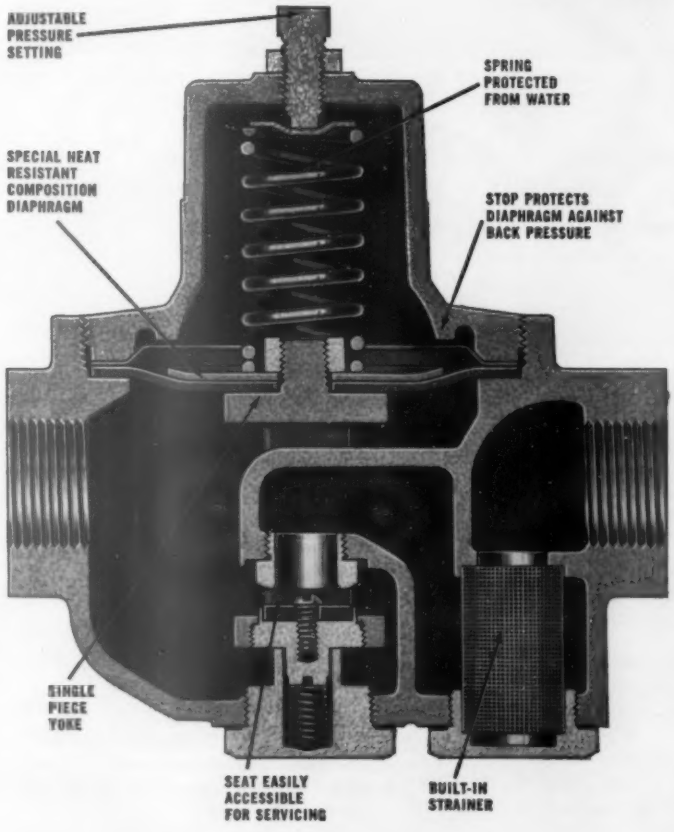
WITH

THRUSH

PRESSURE REGULATORS

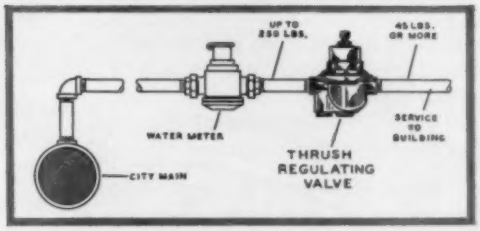


MAINTAIN UNIFORM FLOW REGARDLESS OF PRESSURE VARIATION


ADJUSTABLE PRESSURE SETTING
SPRING PROTECTED FROM WATER
SPECIAL HEAT RESISTANT COMPOSITION DIAPHRAGM
STOP PROTECTS DIAPHRAGM AGAINST BACK PRESSURE
SINGLE PIECE YOKE
SEAT EASILY ACCESSIBLE FOR SERVICING
BUILT-IN STRAINER

Whenever city water pressure exceeds 75 pounds, a Thrush Pressure Regulator is needed. With this valve, the noise, splashing and damage to fixtures which result from excessive pressure can be completely corrected and a uniform lower pressure can be maintained, regardless of supply line pressure variation. Operates efficiently with air, light oils or water. Valves can be set for different delivery pressures at any time after installation. See your wholesaler for more information or write Department C-6

Typical hook-up of Thrush Pressure Regulating Valve



H. A. THRUSH & COMPANY
PERU, INDIANA

QUALITY HYDRONIC HEATING SPECIALTIES

JOBBERS:

Shell distributes over 90% of its heating oil through its jobbers, backs them up in nine other key ways

A Shell Heating Oil franchise gains in value every year. The main reason: Shell puts jobber needs first. This is reflected in many ways. Special jobber seminars. Insurance plans. Sales promotion aids. Advertising campaigns. Sonitor. FOA-5X. To name a few.

Read why the Shell Heating Oil franchise is attracting new jobbers all the time.

NO ONE is more important to Shell's heating oil business than the Shell heating oil jobber.

That's why Shell gives its jobbers unqualified support in so many ways. Here are a few examples:

1. Shell gives its jobbers "first call" on supplies. More than 90% of all Shell Heating Oil goes directly to Shell franchised jobbers.

2. Shell supplies a stable heating oil. In certain areas, Shell jobbers have a new kind of heating oil—a bright, clear fuel made by a Shell patented *Hydro-desulphurization** process.

3. Shell uses FOA-5X® to help reduce filter clogging. A special additive in Shell Heating Oil helps guard against fuel system deposits.

4. Shell provides its jobbers with Sonitor® to help them win new customers. Sonitor is Shell's anti-rust treatment for tanks—proved effective in over 1,000,000 storage tanks.

5. Shell Research is constantly working on new ideas that can mean more business for Shell jobbers. From Shell Research came the Shell Combustion Head, used in many different makes of oil burners.

Remarkable cleanliness of Shell Heating Oil helps guard against clogging. The oil swirls through the opening and burns with a balanced, cone-shaped flame.

Recently, Shell scientists invented the revolutionary Ventres Burner.

6. Shell keeps its jobbers informed. Shell conducts seminars for its jobbers, explains the latest developments in heating oil and profit-building business methods.

7. Shell keeps its supply lines full. Six Shell refineries interconnect with 99 terminals. Tankers, barges, pipelines, transport trucks, and tank cars are employed to assure a ready supply of Shell Heating Oil.

8. Shell offers its jobbers a liberal insurance program. Policies up to $10,000 are available.

9. Shell makes a full product line. Shell jobbers can market Shell Diesolines and kerosene, as well as heating oils.

10. Shell advertising directs new business your way. This year, Shell is America's No. 1 advertiser in newspapers. This enormous impact adds value to the Shell Heating Oil franchise. Shell will also spend more money to promote heating oil in 1961 than ever before, including a major cooperative advertising program.

Call a Shell Representative

Shell's many local offices can give you all the facts. Call today. Or write: Shell Oil Company, 50 West 50th Street, New York 20, New York.

SHELL

A BULLETIN FROM SHELL
— where 1,997 scientists are helping to provide better products for industry

*U.S. Patent No. 2608521

The LeFebure Automatic Degree Day System was created exclusively for helping bulk fuel dealers increase the efficiency of their delivery operations. This single-card system tells you simply and systematically when to refill each customer's tank. In its degree day scheduling, the LeFebure system includes an adequate reserve for each customer.

The LeFebure Degree Day System is so easy to operate that even a new employee can learn its correct use immediately. And LeFebure's System is designed to coordinate with accounting and service functions.

Bulk fuel companies using the LeFebure Single-Card Automatic Degree Day System have shown lower operating costs, tighter administrative control and better customer service.

For literature illustrating *why* bulk fuel companies have enjoyed these benefits with the LeFebure Degree Day System . . . and *how* this system will work for you, send the coupon to LeFebure Corporation, Cedar Rapids, Iowa. Act now . . . and be ready for next season.

LeFebure Corporation, Cedar Rapids, Iowa
Gentlemen:
Please send me at once, a copy of the illustrated brochure explaining the LeFebure Single-Card Degree Day System.

Name _____

Company Name _____

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City _____ State _____

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NOW! A high-quality FM two-way mobile radio for only $419!

The General Electric Pacer...

. . . the all-new two-way mobile radio that gives you every advantage of quality FM communication at the low, low price of only $419.00.

The General Electric Pacer gives you communication range comparable to more expensive sets. Its low battery drain (the lowest of any in its class), of 4.2 amps means no special generator, no heavy duty battery, longer battery life. A real money saver!

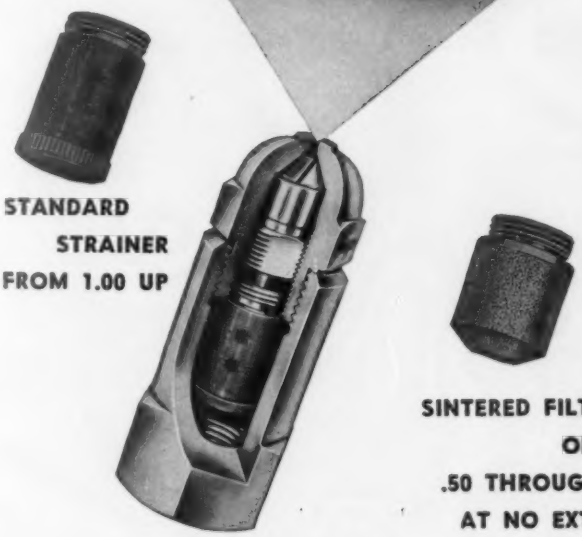
It is lightweight and small enough to fit even in the new compact cars with ease. Installs in minutes. *And, of course, you get the full communications quality of FM radio built by General Electric!* Channel Guard protection against nuisance calls and skip signal interference also available at extra cost.

To learn the complete details on the low-cost General Electric Pacer, look under Radio Communication, in the Yellow Pages of your classified telephone directory. Or write: General Electric Company, Communication Products Dept., Section 4061, Lynchburg, Va.

GENERAL ELECTRIC

Hago

PRECISION NOZZLES



STANDARD STRAINER FROM 1.00 UP

SINTERED FILTER SUPPLIED ON .50 THROUGH .85 g.p.h. AT NO EXTRA COST

TO QUIET NOISY FIRES AND COMBAT PULSATION, TRY OUR NEW **"ES"** NOZZLES

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***IN CANADA* — RICHARDSON, LTD.**

3269 Bloor St. West, Toronto

IT'S EASIER! EASIER!

WITH Luxaire®

EASIER! To Buy! To Install! To Sell! To Convert! (for Air Conditioning)

New, low prices on the most wanted sizes and models – all along the complete Luxaire line – make Luxaire Furnaces easier to buy than ever!

The same heavy construction, eye appeal and trouble-free performance – constantly upgraded – give Luxaire Furnaces more sales appeal than ever!

For gas, oil or electricity you receive Luxaire Furnaces in one compact carton – ready for hookup to fuel supply, electrical connection and ducts – for simplest possible installation!

Luxaire Furnaces can be converted for the addition of most capacities of summer air conditioning – without changing the large-capacity, standard equipment blower!

You secure all these advantages – *without the penalty of a big stock* – from your Luxaire Distributor.

Luxaire is the line of excellence that gives you *lowest installed cost* – costs less to buy, less to install and less to stock – keeps your money turning and your profits up!

The superb Gas Fired Upflow Winter Air Conditioner. Heating element is 16-gauge steel with end-welded, die-formed sections. Cabinet has rounded corners for extra rigidity. Blower is the next size larger than adequate for heating only. Controls are top-name brand. 75,000 – 200,000 Btu input.

THE COMPLETE COMPETITIVE LINE OF HEATING AND AIR CONDITIONING

Horizontal Winter Air Conditioners for Gas and Oil

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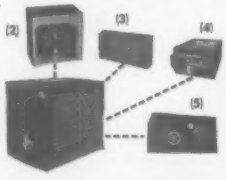
Basement Winter Air Conditioners burn either Gas or Oil



2, 3, 4 and 5 Ton Air Condensing Units with Companion Upflow, Horizontalflow or Counterflow Cooling Coil. 3, 4 or 5 Ton Blower-Coil Unit

2 or 3 Ton Top Capacity Air Cooled Self-Contained Units.

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HEATING & AIR CONDITIONING UNITS

Now, when the Serviceman can get around to It,
is the Time for the yearly Check-up
This 18-step Plan covers all important Items,
gives high Efficiency and Safety
Included are oilburner safety Facts
which even non-technical Executives should know

Summer Check-ups for Oilheating

by John W. Schulz

PERIODIC CHECK-UPS have become a feature of this era. You are urged to have them made on your teeth, your lungs, your eyes, and other parts of your body.

You have your automobile in its entirety checked over regularly in fall at the start of the winter, and again in spring when the winter ends. More frequent, regular check-ups are made on the tires, the tire pressures, the brakes, the air filter, the oil filter, the carburetor, and the ignition system.

Speaking in these terms makes sense to the owner of a typical oilheating plant for which you are recommending yearly check-ups. Periodically he needs cleaning of the interior heating surfaces of his furnace or boiler. Periodically he needs a new element in his fueloil filter . . . a new atomizing nozzle . . . lubrication of his oilburner motor bearings . . . an instrument check-up on combustion efficiency . . . and a complete check-up and tune-up for his oilburner and its controls.

Speaking in these terms can convince an oilburner owner of the need for a yearly check-up for his heating equipment. You don't, in talking to him, have to use the term "preventative maintenance," which was used to some extent years ago. If you use that term, your customer can get the idea that the yearly check-up is needed to "prevent" something bad from happening.

Preferring to avoid those aspects, years ago I started avoiding use of the term "preventative maintenance." Instead of using it, I simply point out that periodic check-ups are good for oilheating equipment, just as they are good for the human body, the automobile, etc.

Hence you can present good reasons for a yearly check-up for an oilburner and an entire oilheating system.

When is the correct time of the year for such a check-up? The right time is now, in summer, when the serviceman can get around to it . . . when keeping oilheating systems in operation is not occupying much of his time.

This works out best for all concerned. It's best for the homeowner on two scores. First, having the yearly check-up made during the warm months avoids even the short shutdown of the heating plant during cold weather, which would result from doing the cleaning work and check-up during the heating season. Second, having the check-up work done during the summer saves the homeowner money . . . compared to having it done during the heating season, when servicemen are busy keeping heating systems working.

The right time for the check-up is summer . . . according to servicemen. Then they have time for it, don't have to make rush jobs of it. In addition, in summer they find warm-air furnaces not hot, not working to heat homes, and therefore pleasant to work on. Boilers are not extremely hot, even if they are providing hot water on tap . . . and if the boilers are not working at that in summer, they too are cold.

The fueloil company or equipment dealer employing the servicemen also finds summer the best time for the yearly oilburner check-up. Not making check-ups in summer, servicemen may not have much work to do . . . although good servicemen stay on the pay-roll the year round. Some employers of servicemen find it possible to keep them fulltime busy throughout the summer on yearly check-up work that's pleasingly profitable.

Working according to a plan, in doing the clean-up and check-up work, is best by far. On-the-job experiences prove that, and so do service records. Going about the work in a step-by-step fashion makes for pleasant continuity; the serviceman knows what he's accomplished since he started, how far he's gotten along with the work . . . and what he has yet to do before his work is completed.

The use of a plan for the work keeps the boss informed on precisely what the serviceman is doing, what's taking up his time. That's good for the serviceman, for it eliminates his having to explain his time-taking activities to the boss. It's good for the boss, for he can tell customers precisely what's included in the clean-up and check-up plan.

Those are some of the reasons for the accompanying 18-step yearly check-up plan, which applies mainly to pressure burners of low gph capacities, because they are the most popular.

Another reason for following a plan of this kind is: Following a good plan

makes certain that important steps, necessary for safety and fuel economy, will not be omitted by the serviceman doing the work. Use of a good, yearly check-up plan should be accompanied by the keeping of records which show precisely what the servicemen did on each installation. Then should the customer inquire, complain, or fuss later, the record of his check-up work can be taken from the files and shown to him.

All this provides great protection and assurance for the company doing the check-up work, and the executives of the company.

You can realize that best by studying steps 9 and 13 in the accompanying yearly check-up plan, both of which are described in the plan as tremendously important. Nothing in oilburner servicing is more important than these two steps!

The top-level executives of companies doing burner service work should know about these two steps (9 and 13) and their importance, even though these executives know nothing else about oilburners, and never go near them.

Refractory Problem

That fact was highlighted three years ago after the publication, in the Readers' Problems department of FUELOIL & OIL HEAT, of a question about an oil-soaked, refractory combustion chamber. The ignition spark of a pressure burner had failed to light the oil that sprayed from the nozzle of a pressure burner after the burner motor had started. The burner motor had continued running for hours, while the nozzle continued spraying oil into the firebox . . . oil not being burned. (For details on this combination of ignition failure and safety failure, in a recent issue of FUELOIL & OIL HEAT, see p. 116 of the May issue, the reader's question from C. J. L., New Hamburg, N. Y.)

The ignition system should not have failed, of course. But after it did fail, the burner's safety control or primary control should have stopped the burner motor in 90 seconds, for that's one of the most important functions of the primary control. However, the primary control did not stop the burner motor. Its failure to do this was most shocking, for the results of this could be highly dangerous . . . if, for example, the dead ignition system came to life after the burner has been spraying unburned oil into the firebox for about six hours. This produced an oil-soaked firebox and conditions so messy to face that the inquirer asked how to cope with them, if ever he had to face them again.

"Tell Me more . . ."

After reading about this awful mess-resulting combination of ignition failure and safety-feature failure, the top executive of a fueloil retail organization wrote to FUELOIL & OIL HEAT blandly saying, "Please tell me more about such oilburner misbehavior, because the oilburners we service are always doing that."

Topping off things, more than a dozen other letters came in from service organization executives and oil company men who stated that oil-soaked fireboxes, the result of burners continuing to run for hours after their ignition systems failed to work, were their greatest service problems and most dangerous hazards.

All this relates to the tremendously important items 9 and 13 of the accompanying yearly check-up plan.

Item 9 has to do with proper adjustment of the spark points or electrodes. Servicemen have to adjust the electrodes. For the sake of both safety and dependable operation, they have to adjust them properly.

If the tips of the electrodes are too far from the oil spray, they may ignite the oil properly while the serviceman is on the job and conditions affecting ignition are just about perfect. But at a later date these conditions may not be as good. The line voltage in the house may happen to be a bit below par at a time when the burner motor is starting. The electrode tips may shorten by an eighth of an inch or so because of normal burning away of their pointed ends. Ignition conditions may deteriorate for other reasons.

Adjusting Electrodes

Adjusting the tips to be too far ahead of the nozzle, and in the oil spray, also will cause either ignition failure or ignition delay (worse) . . . because after some time carbon will form on the electrode tips, and will short-circuit the spark.

If the spark does fail to light the oil for any reason, following starting of the burner motor, then the burner's safety control panel (usually a stack control) should stop the burner motor within a reasonably short time, usually within 90 seconds. If it doesn't, the oil will continue spraying into the firebox, unburned, until someone realizes things have gone haywire, and turns off the oilburner. That's why item 13 in the yearly check-up is of tremendous importance.

Although of less importance, many of the other items in the yearly check-up are vitally related to dependable, efficient, and safe burner performance.

A man going through the 18 steps listed for this yearly check-up does not have to do the work in precisely the order in which the steps are given here. He can do things out of turn, if he prefers for any reason, just as long as he omits nothing.

As this yearly check-up had to conform to space requirements, it is not so complete as to tell a novice how to clean-up and check-up an installation. It assumes know-how and intelligence on the part of an experienced serviceman . . . enough of this to observe that a combustion chamber needs replacement, for example, or that a pump shaft gland is leaking fueloil, or that a smokepipe draft regulator is sticky, undersize, or in need of replacement for any reason.

Yearly Check-Up

☐ 1. **Vacuum cleaning**—Using an industrial vacuum cleaner made for this, and fairly new and in excellent condition, clean thoroughly all the heating surfaces within the furnace or boiler.

☐ 2. **Smokepipe**—Examine the smokepipe for rigidity and air-tightness, and for signs of deterioration. If a new smokepipe is needed, recommend it to the owner. If the smokepipe is partly plugged, clear it using your vacuum cleaner. Make certain that a stack control is mounted rigidly.

☐ 3. **Chimney**—If you encounter any symptoms of insufficient draft (tests made later with a draft gage may report insufficient draft), examine the chimney for plugging. If the chimney needs cleaning, inform the owner of this.

☐ 4. **Fueloil filter or strainer**—Recommend the installation of a highly effective oil filter for a low gph installation which lacks such a filter. Where you find such a filter, install a new filter element, as this should be done on a once-a-year basis. Use your judgment about tending to an oil strainer located in a fuel unit or oil feed line.

☐ 5. **Oil lines, fittings, and specialties**—Inspect the entire installation for oil dripping or leaking from oil lines, fittings, burner parts, specialties, etc. Seal any leaks you find.

☐ 6. **Gun assembly**—Remove the drawer assembly or gun-tube assembly from the oilburner. Wipe it clean, using a piece of cloth. At the same time, clean the burner's blower wheel and air inlet ports.

☐ 7. **New atomizing nozzle**—Replace the burner's atomizing nozzle, as this should be done on a once-a-year basis. Install a new nozzle which is correct for the installation with respect to the nozzle's gph firing rate, spray pattern, and spray angle.

☐ 8. **High tension insulators**—If necessary, clean the porcelain insulators which support the electrodes. Make certain these insulators are in good condition, without cracks. If the burner has insulated high tension wires, check their condition . . . replace them if their insulation is frayed or cracked.

☐ 9. **Electrode adjustment**—Adjust the spark points or electrodes of the ignition system to be close to, but not in, the oil spray from the nozzle. This is tremendously important! If you are new at oilburner servicing or are in doubt, make certain to set the spark points precisely according to the instructions of the burner manufacturer as given in the burner's installation and service manual. The length of the spark gap is important.

☐ 10. **Fire the burner**—Replace the gun tube assembly, and fire the burner. Start and stop it three or four times. Use a flame mirror to check the setting of the spark points, and to check for proper, sharp closing of the nozzle-line shut-off valve.

☐ 11. **Initial flame adjustments**—Use a pressure gage, and make certain the nozzle pressure is correct. Adjust the flow of air to the flame to obtain what you believe is proper flame appearance.

☐ 12. **Combustion tests**—Use instruments to check numerically on: 1) CO_2 content of the flue gases, 2) stack temperature, 3) smoke in flue gases, 4) over-fire draft, and 5) draft on the smoke outlet of the furnace or boiler. Make final adjustments to the burner's air damper, and the smokepipe draft regulator . . . and wind up with combustion-test readings suitable for the installation.

☐ 13. **Safety control panel**—This step is tremendously important! Don't fail to give it proper attention! Check the start-up safety timing or the trial-for-ignition period of the burner's primary control or safety control panel (which on many installations is a stack control mounted on the smokepipe). Make certain that in case the ignition system fails to light the oil after the burner starts, the burner will be stopped "on safety" in the proper length of time (usually 90 seconds).

☐ 14. **Limit controls**—Check for proper adjustment and proper operation of every limit control on the installation, especially the high-limit control.

☐ 15. **Fuse protection**—If fuses are used for the heating system electrical equipment, check them to ascertain that they are of the correct amperage capacities . . . are not oversize.

☐ 16. **Motor lubrication**—Do a proper job of oiling the bearings of all heating equipment motors which need lubrication, including motors of oil burners, hot-water circulators, warm-air system blowers, etc. At the same time, check the drive belt of a belt-driven forced-air blower.

☐ 17. **Heating systems**—Tend to all heating system chores. Check the air filters of a furnace, also its humidifier . . . the low-water cut-out or combination feeder and cut-out of a steam boiler. Observe the pressure in the boiler of a closed hot-water heating system, and make certain its pressure-relief valve is not dripping.

☐ 18. **Owner instructions**—If you find that the owner needs instructions about the operation or maintenance of his heating equipment, write them out and leave them for him.

Bring back the combustion Gases

Mixing Them with burner air Supply creates a top Efficiency 'Flameless' Fire

by F. R. Dunn, Jr.*

Edit. Note—This is another example of the special attention and research being devoted to improvement of oil-heating, in ever increasing volume. It is the tenth feature article published by FUELOIL & OIL HEAT *in the past three years setting forth significant progress achievements toward burner development. This Atlantic report is noteworthy in that it assumes only minor modification of the well known high pressure gun burner.*

IN ORDER TO INSURE continued healthy growth of the oilheating industry it is essential that modern, efficient oilburning equipment be marketed. The Atlantic Refining Company has been active in studying improved methods for distillate fuel burning. One of the approaches used has been aimed at improving the performance of existing distillate fuel burning equipment by means of relatively simple mechanical modifications. Atlantic's work has been concerned primarily with uncovering new techniques and not with final equipment design; this is most effectively done by the burner man.

One approach to improving oilburner performance is the recirculation of combustion gases back to the air inlet of the burner. Our work in this area has been limited to the high pressure gun type burner, as it is recognized that some types of currently marketed burners, e.g. rotary wall flame and vaporizing pot, operate with a limited amount of internal recirculation of combustion gases. Results with the combustion gas recirculation applied to a high pressure gun burner have shown a number of outstanding performance advantages. These are:

1. Clean, zero smoke number operation
2. Improved efficiency, high CO_2
3. Very quiet combustion
4. Improved, almost "flameless" flame appearance.

Throughout this paper the term "flameless combustion" is used. This is a unique condition in which the combustion appears as a transparent, bluish mass of swirling gases. This appearance is in sharp contrast to conventional oilburner combustion where well defined, yellow or partly blue, highly visible, radiant flames are present.

For our studies we used a standard high pressure gun type oilburner installed in a low pressure steam boiler. A number of equipment modifications, to be described later, were made. Figure 1 shows photographs of the experimental unit used. A schematic diagram of the experimental unit is shown in Figure 2. This diagram also shows the location of the sample taps used with the unit.

An 11″ x 14″ precast insulating fire brick combustion chamber which was topped with a lip about 1″ wide around the whole chamber was used. The lip was made of 1½″ thick insulating fire brick; its purpose was to help confine the flame within the fire box.

Briefly, our system works as follows: Combustion gases are conducted from the stack in the rear of the boiler through an insulated 3″ flue pipe to the burner air inlet. The burner housing is modified to include, in addition to the inlet for the combustion gases, a solenoid slide valve to admit fresh air. This is controlled by a thermostat in the stack which holds the slide valve in its more open position during starting and then allows it to partly close after the boiler, and consequently the stack, has warmed up. An extended shaft and mounting block have been made for the motor and an insulating block mounting has been made for the transformer to keep these parts from overheating due to the hot recirculated combustion gases. The nozzle is shielded from excessive radiant heat from the combustion chamber by a metal shield around the nozzle and by coating the combustion chamber side of the air cone with plastic insulating cement about ½″ deep. A delayed oil valve is used in the oil line between the pump and nozzle.

Our first attempts to use recirculated combustion gases showed up several conditions which are different from normal burner operation. One was the problem of starting satisfactorily when

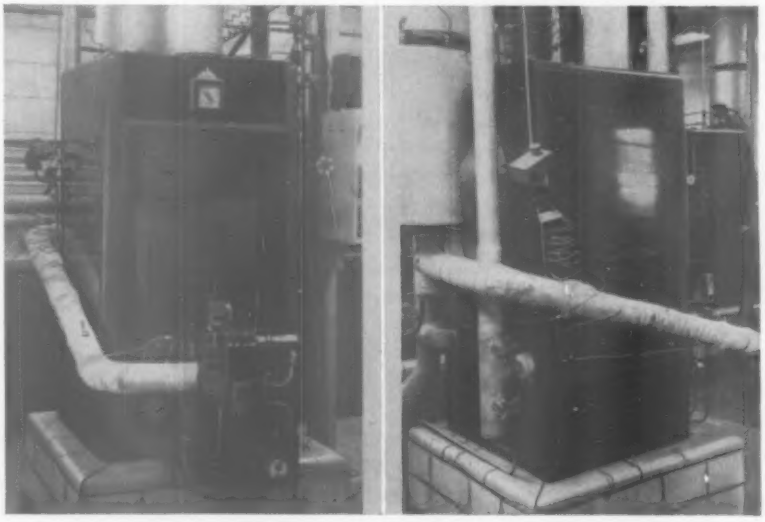

Fig. 1. Combustion gas recirculation experimental unit.

*Senior development Engineer, R&D Department, Atlantic Refining Co., Philadelphia. This study was made for the API Research Conference on Distillate Fuel Combustion, 1961.

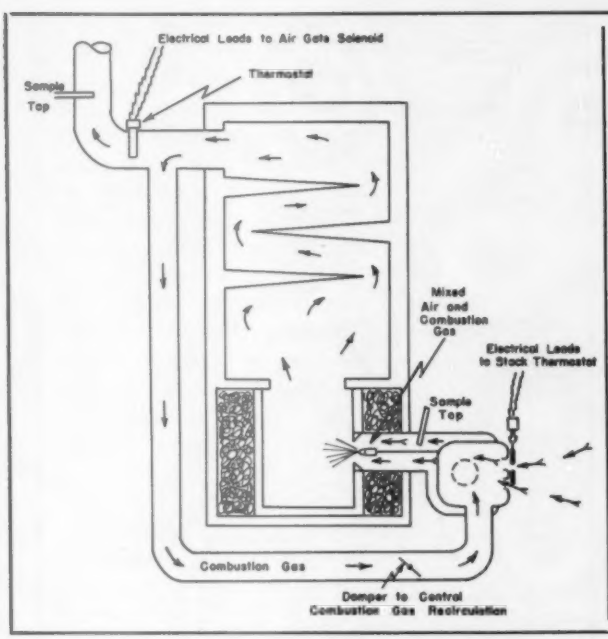

Fig. 2. Combustion gas recirculation experimental unit, schematic diagram.

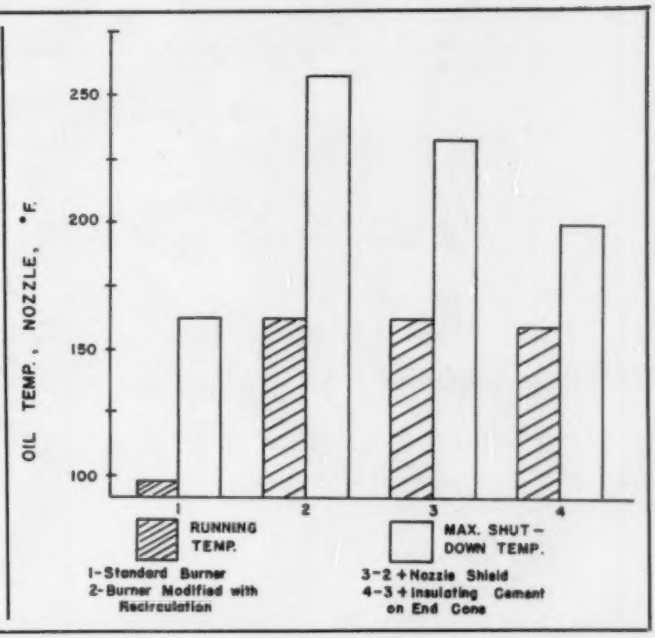

Fig. 3. Effect of nozzle shielding devices on oil temperature at nozzle.

the unit is cold. At conditions which gave good burning during normal operation, i.e. no smoke, low noise and flameless combustion and high efficiency, the unit would not give a satisfactory cold start. It was found that extra air had to be supplied. To provide this, the solenoid air gate was designed.

A second problem which was easily overcome was that of higher temperatures of all parts of the burner due to the hot recycled combustion gases. This was solved as mentioned earlier by having an extended shaft and mounting for the motor and by mounting the transformer on an insulated block. No modification was necessary to the fan, fuel pump and burner housing since their operation was not affected by the added heat.

Nozzle coking, a third problem, was also caused by the higher temperatures. This problem of nozzle deposits is caused mainly by decomposition of the fueloil during the period following a burner shutdown. At that time the fuel is not flowing and can "stew" while radiant and conducted heat from the combustion chamber is raising the nozzle temperature. Maximum temperature occurs shortly after shutdown while the combustion chamber is still very hot and while no fuel or air flow are occurring to take the heat away from the nozzle. This temperature has been reduced from 260°F obtained with no nozzle modification to 200°F by using the nozzle shield and insulation described earlier. Figure 3 shows the effect of the nozzle shield alone and of the final combination in reducing the temperature. The figure also illustrates that the running temperature (160°F) is lower than the soaking temperature after shutdown and is unaffected by the modifications. The final nozzle modification made was effective in preventing nozzle coking.

In this paper, the combustion gas recirculation rate is defined as the percentage of combustion gas in the "air" fed to the burner. The "air" is a mixture of fresh air and combustion gases. The combustion gas recirculation rate is calculated from the oxygen contents of the stack combustion gases, the fresh air (i.e. 21% O_2) and the "air" (mixture of fresh air and combustion gases) in the burner gun tube; the formula used is given in a footnote in Table 2.

The data we obtained in our experiments are summarized in a series of plots, Figures 4-6. Smoke numbers are reported in terms of the conventional Shell-Bacharach scale.

Figure 4 shows the effect of combustion gas recirculation rate on CO_2 and excess air, as well as its influence on flameless and smokeless (O smoke number) burning. Note that as the combustion gas recirculation rate is increased, CO_2 markedly increases while excess air decreases and finally a flameless and smokeless combustion region is reached. The term "flameless combustion" was described earlier in the introduction to this paper. When the flameless and smokeless region is reached a marked decrease in combustion noise level occurs. The figure shows the region for three different oil rates. Flameless and smokeless combustion was associated with a gas recirculation rate of about 30% minimum at a 1.13 gph oil rate, 37% minimum for 0.96 gph and 41% minimum for 0.84.

Further increases in gas recirculation rate beyond these minimums did not affect the flameless and smokeless character of the combustion within the limits of our experiments, i.e. about a 50% maximum recirculation rate. However, it is logical to assume that if the gas recirculation rate was increased beyond the 50% point, there would eventually be insufficient oxygen supplied to the burner. Smoke or complete combustion failure would result.

The marked effect of combustion gas recirculation on smoke number as excess air is reduced and CO_2 is increased is shown in Figure 5 for one

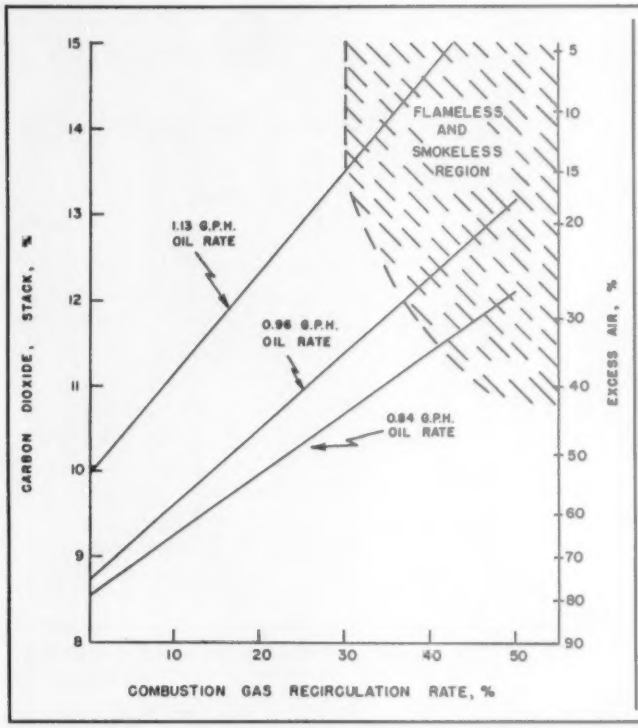
FLAMELESS AND SMOKELESS REGION
1.13 G.P.H. OIL RATE
0.96 G.P.H. OIL RATE
0.84 G.P.H. OIL RATE
CARBON DIOXIDE, STACK, %
EXCESS AIR, %
COMBUSTION GAS RECIRCULATION RATE, %

Fig. 4. Effect of combustion gas recirculation rate on stack carbon dioxide, excess air and influence on flameless and smokeless burning.

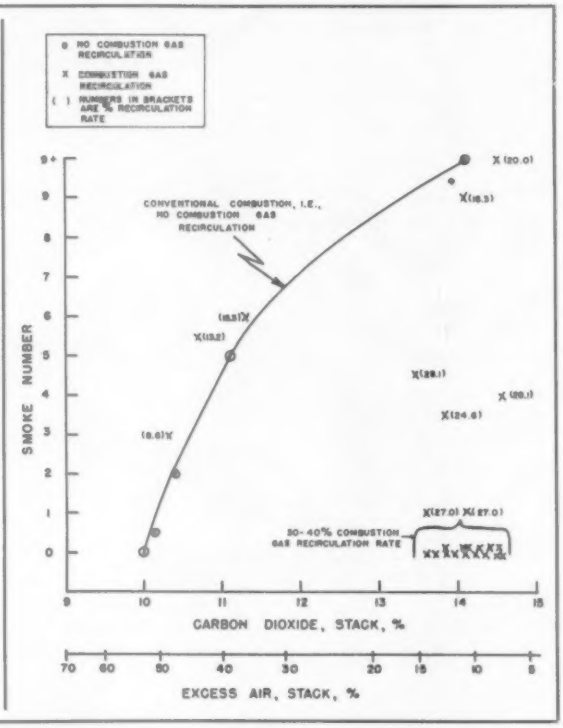
NO COMBUSTION GAS RECIRCULATION
COMBUSTION GAS RECIRCULATION
( ) NUMBERS IN BRACKETS ARE % RECIRCULATION RATE
CONVENTIONAL COMBUSTION, I.E., NO COMBUSTION GAS RECIRCULATION
30-40% COMBUSTION GAS RECIRCULATION RATE
SMOKE NUMBER
CARBON DIOXIDE, STACK, %
EXCESS AIR, STACK, %

Fig. 5. Smoke number vs. stack carbon dioxide and excess air for conventional combustion and for combustion gas recirculation at 1.13 gph oil rate.

oil rate (1.13 gph). With conventional combustion, smoke number increases rapidly. However, with combustion gas recirculation, the smoke number increase is reduced somewhat beyond a 20% gas recirculation rate and then as noted above when the critical rate is reached flameless and smokeless burning occurs.

With our experimental unit most of the mechanical adjustments made centered around an excess air of about 15% or less; this is equivalent to 13.5% or higher CO_2. In this operating range the effect of combustion gas recirculation rate is very marked. As pointed out earlier, at a certain minimum combustion gas recirculation rate, which depends on oil firing rate, there is no smoke, but below this minimum figure smoke number rises very rapidly. This is readily seen in Figure 6 which is a plot of the combustion gas recirculation rate vs. smoke number in the 13.5 to 14.5% CO_2 range at an oil firing rate of 1.13 gph. For example, at a combustion gas recirculation rate above 30% the smoke number is 0, while at a 22% recirculation rate the smoke number is approximately 8.

Referring back to Figure 4, the combustion gas recirculation rate shown for each of the three oil rates represent the best burner adjustment for conventional combustion to give the highest CO_2 at a 0 smoke number. Also, the CO_2 level corresponding to the minimum gas recirculation rate that permitted flameless and smokeless (i.e. 0 smoke number) combustion is the lowest value attainable. Higher CO_2 levels resulted with recirculation rates greater than the minimum. For convenience, the best CO_2 value which was obtained with conventional combustion at a 0 smoke number and the CO_2 value obtained with the minimum gas recirculation rate giving flameless and smokeless combustion are tabulated in Table 1 for three different oil rates.

A number of comparative performance tests were run with the experimental combustion gas recirculation unit. The purpose of these tests was to compare unit efficiency with and without combustion gas recirculation. The typical results from one of these tests are given in Table 2.

The burner was adjusted in both tests shown in Table 2 to burn at a 1 smoke number on an operating cycle of 15 minutes "on"/15 minutes "off". Adjustment was made for a 1 smoke number in order to obtain an optimum CO_2 with clean burning for the conventional combustion run. In test B the combustion gas recirculation rate

TABLE 1

COMPARISON OF CO_2 LEVELS OBTAINED WITH MINIMUM GAS RECIRCULATION RATE TO GIVE FLAMELESS AND SMOKELESS COMBUSTION AND CONVENTIONAL COMBUSTION AT 0 SMOKE NUMBER

	Combustion Gas Recirculation			*Conventional Combustion*		
Oil Rate, GPH	*Minimum Gas Recirculation Rate, %*	*CO_2, %*	*Excess Air, %*	*Gas Recirculation Rate, %*	*Best CO_2, %*	*Excess Air, %*
1.13	30	13.5	15	0	10.0	52
0.96	37	12.0	28	0	8.8	73
0.84	41	11.5	33	0	8.6	77

was 30% and was, of course, 0 in the case of test A. Note that an increase of nearly 5 percentage points was obtained in both combustion and unit efficiency when combustion gas recirculation was used. The other benefits of combustion gas recirculation—transparent flame appearance and low noise level—were also obtained throughout test B. The burner as noted was specially adjusted to give a 1 smoke number to be comparative with the conventional combustion run. Normally, as pointed out above, the smoke number would be 0 in the flameless or transparent flame appearance region.

The experimental unit was also run with combustion gas recirculation on a typical operating cycle for about 4 months with results similar to those shown in test B, Table 2. No mechanical difficulties were encountered.

TABLE 2

Comparative Cyclic Operation Performance Tests
COMBUSTION GAS RECIRCULATION VS CONVENTIONAL COMBUSTION

Operation: Oil Rate 1.13 gph
15 minutes "on"/15 minutes "off"—48 hours total run
Burner adjusted in both Test A and B to burn at a 1 smoke number

	Burner Gun Tube		*Stack*							
		Comb.	*Gas Analysis*				*Temp.*	*Efficiency, %*		*Exc.*	*Flame*
Test		*Gas,*	O_2,	CO_2,	*CO,*	*Smoke*	*Rise,*	*Comb.*	*Unit*	*Air,*	*Appear-*
No.	O_2,%	%*	%	%	%	*No.*	°F.	**	***	%	*ance*
A	21	0	8.8	9.0	0	1	416	80.0	61.3	68	Radiant
B	15.5	30.2	2.8	13.5	0	1	417	84.6	66.1	15	Trans-parent

* % Combustion Gas = $\dfrac{\text{oxygen content of air—oxygen content of gas in gun tube}}{\text{oxygen content of air—oxygen content of combustion gas at the stack}} \times 100$

NOTE: % Combustion Gas in Table 2 is referred to in text as Combustion Gas Recirculation Rate.

** Combustion Efficiency = $\dfrac{\text{Heat input of oil—heat lost up the stack}}{\text{Heat input of oil}} \times 100$

*** Unit Efficiency = $\dfrac{\text{Heat output of boiler}}{\text{Heat input of oil}} \times 100$

Theoretical Considerations

The mechanisms involved in combustion gas recirculation are not completely understood. The technique is believed to be effective because the presence of the combustion gases thoroughly mixed with the incoming fresh air to the burner alters the complex reactions which occur during combustion. It is believed that temperature also has an effect since the hot combustion gases should assist in vaporizing the fuel oil. Very little theoretical information on combustion gas recirculation has been reported in the literature, although a publication by Battelle Memorial Institute discusses the same phenomenon which they call "Diluted Flames."[1]

[1] A. E. Weller, "Investigation of Gravity Fed Vaporizing Puddling Type Burners, Battelle Memorial Institute, July 1958.

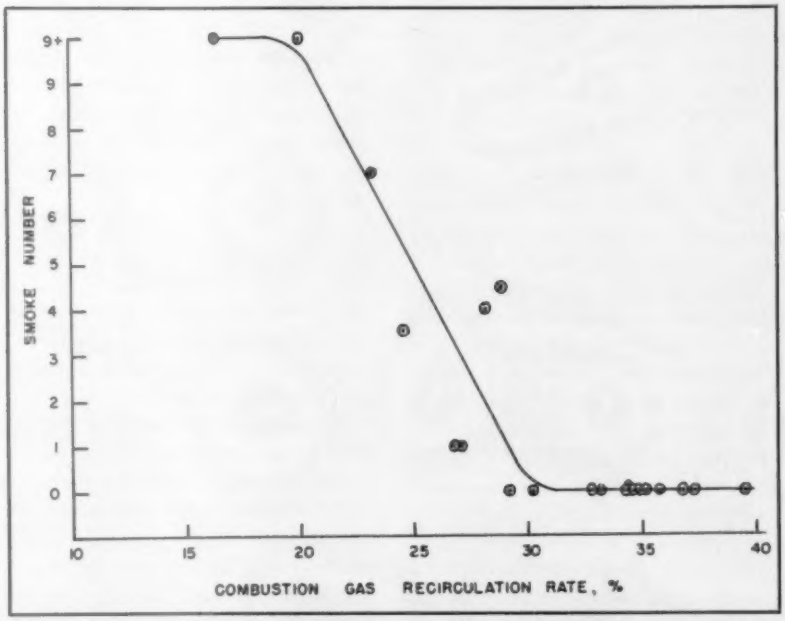

Fig. 6. Smoke number vs. combustion gas recirculation rate in the 13.5-14.5% CO_2 range for 1.13 gph oilfiring rate.

It was shown by some short experiments in our experimental unit that the primary effect of recirculated combustion gases was caused by dilution of the air and not by the heat recycled through the combustion process. By bleeding nitrogen at room temperature, instead of hot combustion gases, in with the incoming fresh air to the burner the same type of quiet, transparent flame was obtained as with recirculated combustion gases.

It was concluded from our experiments that combustion gas recirculation gives a hotter combustion or "flame" temperature than conventional combustion. Three facts led us to this conclusion. First, in our experiments a standard 2200°F refractory and also a 2600°F refractory combustion chamber fused badly. Second, when flameless combustion occurs surface combustion appears to be in effect as evidenced by the glowing combustion chamber refractory walls—the same as witnessed with well-known surface combustion units; hotter combustion temperatures are known to occur in these units. Third, less excess air is required with combustion gas recirculation which results in higher combustion temperatures.

Other means for improving the design of a combustion gas recirculation system have occurred to us, but they have not been investigated.

(*Please turn to page* 110)

Hood Canal Anthology

With Apologies to Edgar Lee Masters and Thanks to Mose Vining

Edit Note—En route to Portland, Oregon, for the annual Pacific Coast Convention, reported elsewhere in this issue, the editor detoured by Seattle to spend a long weekend aboard the yacht "Eugenie" skippered by Mose Vining. We cruised the Hood Canal, of which it is said that the pioneers couldn't have starved due to the millions of clams and other seafood. Occasionally during the three days afloat a few questions were asked about fueloil and oilheating in the Northwest. So this report will be in the form of questions by the editor and answers by Vining.

Q. How is the Equipment Allowance Program coming along?

A. Well, it has a few problems but generally it has been very effective and workable. The principal difficulty is that some of the most aggressive dealers run out of matching funds while others don't call for all of theirs.

Q. As I understand it, the refiner puts up 1/10¢ a gallon and this is to provide $82.50 to help finance the cost difference between oil heat installations and those of other fuels. Is this how it goes?

A. That's it but notice that the money can only be used by the regular dealer of each major supplier. That brings up the problem that I mentioned. For example, Shell and Richfield have had more dealers that were strong in the oilheating equipment business, like Jerry Warrington (Rossoe) and those companies run out of allowances early in each quarter. Mostly they go ahead and take a chance on getting covered in the next quarter.

Mose Vining

Q. Is this assistance limited to complete oilheating units for new homes?

A. No, it can be used for replacement furnaces in neighborhoods where gas heat or electric heat are active in competition. And there's another possibility . . . when the dealer sells a replacement burner for the old furnace he can get a $50 allowance from the fund, but all that must come out of the maximum of 1/10¢ a gallon.

Q. Is there any other way for the dealer to use money from the fund?

A. Yes, if the customer has a tank failure. That's one time that we're particularly vulnerable. In the Seattle area most of the earlier jobs had 675 gallon buried tanks. These go out at a rate around one percent a year. A replacement costs usually $140. Then the folks may take a look at gas and often do. So our EAP will provide $50 to help on the tank cost, and of course the dealer makes a similar contribution, so the customer is out only $40.

Q. Why does gas heat promotion come in so strong at that time?

A. Well, we've had quite a slowdown in the new home building market in the past couple of years so the gas utilities have decided that they have to get more conversions, particularly from us. When an oil user needs a replacement, or can be persuaded that he needs one by the gas salesman, he can get gas equipment without buying anything. They will rent it to him and the rate is only $1.95 a month. The rent agreement says that either party can cancel after one year but no one expects it to be done for years. The utility claims that the $1.95 a month or $23.40 a year amply covers the interest on the investment required. And since they operate on public financing anyway, it looks OK as an investment.

Q. Can you do anything to cut down on the number of replacements needed?

A. In our own company (Diesel Oil Sales Co.) we use service contracts including all parts, and we'll keep a burner going forever or in the final stage we'll replace it under our parts guarantee. Of course that doesn't hold true for a complete unit, but on that we can get support from EAP. The dealers with strong service organizations are not losing many replacements to the other fuels.

Q. Do the general heating dealers get much from this equipment program?

A. I'd say that fully seven jobs out of eight are put in by the oil companies. You can see the reason. While it's true that the heating man can get the $82.50 alowance from the central fund providing the deal comes through a branded oil outlet, there's another angle here. You see the oil distributor or whatever you call him has to also put up values equal to the $82.50 from the refiners, either in cash or sales expense or equipment losses or however, but anyway there's no profit in the transaction.

Q. You know of course of the many types of "subsidy" or call it "investment" by the gas and electric utilities to get the new heating customer on its lines. Do you think that the oil industry is going strong enough to maintain and build its market?

A. Not at all. I'm convinced that we need to set our sights at a full cent a gallon to cover promotion and equipment allowances. I'm convinced that the industry can afford it and the customers can well afford some extra cost for perfect heating. I'm sure that the gas and electric people spend at least

(*Please turn to page* 101)

Eastern oil heat Exposition to show the latest Equipment

WHAT'S NEW in the Soaring Sixties for oilheating and airconditioning will be featured at the 1961 Biennial Eastern Exposition of Oil Heat and Air-Conditioning.

The show opens on June 6 and continues on the 7th and 8th, from 1:00 to 10:00 P.M. each day. There will be almost 100 manufacturers exhibiting their products and services on the mezzanine floor of the Statler Hilton Hotel in Boston.

The Oil Heat Institute of New England sponsors the Exposition and will hold its annual meeting in conjunction with the affair. Clarence H. Fay, executive secretary of the association, is managing the Exposition, assisted by Harold W. Loveren, Exposition chairman.

The Exposition, the only one of its kind to be held in the East this year, traditionally draws large attendance from the New England and Mid-Atlantic area, plus smaller representation from other areas as well as Canada.

Old Timers' Dinner

A late announcement contained plans for an Old Timers' Club dinner to take place during the 1961 Eastern Biennial Exposition of Oil Heat and Air Conditioning.

Date will be June 6 at 6:00 P.M.; tickets will be available in the lobby of the Statler Hilton Hotel, Boston; price has been set at $7.50 each.

Because of the lateness of the decision to hold this dinner a place had not been finally selected at press time. This information, of course, will be posted at the Old Timers' booth in Boston.

List of Exhibitors

Eastern biennial Exposition of oil Heat and air Conditioning

Hotel Statler, Boston

June 6 to 8, 1961

(As of May 19, 1961)

	Space No.
Acme Mfg. Co.	(246)
Aetna Chemical Corp.	(121)
American Tube & Controls Inc.	(207)
Bell & Gossett Co.	(222)
Bridgeport Chemical Corp.	(263)
Burnham Corp.—Warm Air	(130)
Burnham Corp.—Heating	(141)
Carborundum Co.— Refractories Div.	(119)
Carlin Co.	(237)
A. W. Cash Valve Mfg. Co.	(134)
T. G. Colter Inc.	(224)
Columbia Boiler Co. of Pottstown	(209)
Commercial Filters Corp.	(226)
Crown Tank Works Inc.	(230)
Andrew Curcio Adv. Co.	(232A)
Delco Appliance Div.	(147)
Duc-Pac Inc.	(243)
Econo Products Co., Inc.	(103)
Edwards Engineering Corp.	(101)
Electric Furnace-Man Inc.	(128)
Everhot All-Copper Inc.	(258)
Field Control Div.— Conco Engineering Works	(241)
Fuel Oil News	(269)
FUELOIL & OIL HEAT	(256)
General Filters, Inc.	(140)
General Fittings Co.	(257)
Gorman-Rupp Co.	(115)
Gould Oil Burner Co.	(213)
Charles T. Grace	(265)
Gulf Oil Corp.	(272)
Hall Equipment Co.	(M9)
Hayward Oil Burner Corp.	(250)
Heat-Timer Corp.	(138)
Hy-Test 303 Corp.	(146)
Iron Fireman Mfg. Co.	(220)
Jet-Heet, Inc.	(114)
Johns-Manville Sales Corp.	(M4)
Johnson Degree Day Systems	(108)
L. O. Koven & Bros., Inc.	(210)
Lake Chemical Co.	(212)
Lockheed Electronics Co.	(266)
Mastercraft Industries Inc.	(122)
McDonnell & Miller Inc.	(206)
Metalbestos Div.— William Wallace Co.	(242)
Metromatic Mfg. Co.	Hancock Room
Mobil Oil Co.	(218)
Morse-Smith-Morse Co.	(217)
National-U. S. Radiator Corp.	(204)
New England Equipment Dealer	(271)
New England Telephone & Telegraph Co.	(245)
Oil Equipment Mfg. Corp.	(129)
Paco Industries, Inc.	(113)
Parke-Hill Chemical Corp.	(136)
Philly Rapid-Tite	(203)
Power Cleaning Equipment Corp.	(234)
Pullman Vacuum Cleaner Corp.	(255)
PurOlator Products Inc.	(116)
Quiet Automatic Burner Corp.	(106)
Radiant-Ray Radiation Inc.	(239)
Research Products	(232)
Rheem Manufacturing Co.	(135)
Silent Automatic Products	(233)
Scully Signal Co.	(221)
Slant/Fin Radiator Corp.	Parlor D
H. B. Smith Co., Inc.	(240)
Stewart-Hall Chemical Corp.	(216)
Stewart-Warner Corp.— Heating & Air Conditioning Div.	(201)
Sundstrand Hydraulics	(259)
Sun Oil Company	(235)
Sun-Ray Burner Mfg. Corp.	(251)
Taco Heaters Inc.	(219)
James Talcott Inc.	(228)
Thatcher Furnace Co.	(247)
Thermo All-Copper	(264)
Time Saving Fills, Inc.	(254)
Toridheet Div.— Cleveland Steel Products Corp.	(208)
V & E Products Inc.	(137)
Watts Regulator Co.	(253)
Weather Services Inc.	(244)
Weil-McLain Co.	(215)
Williams Oil-O-Matic Heating Co.	(261)
York-Shipley Inc.	(249)

Exposition Hours

Tuesday, June 6—1:00 to 10:00 P.M.
Wednesday, June 7—1:00 to 10:00 P.M.
Thursday, June 8—1:00 to 10:00 P.M.

Werly proposes national Advertising

At OHI Convention, NOFI President promises Codes, Education, and Statistics

ADDRESSING the 39th, and final, annual convention of the Oil Heat Institute at Washington on April 26, Glenn L. Werly told the group that the first expansion of activities under the new "one-roof" NOFI would be in the four fields that members have clearly indicated as being of prime importance.

Of possible first interest to dealer members were his remarks on broadening the scope of the NFC promotional activity to add types of advertising other than local. He outlined his reviews, "We think the time has arrived to give some serious thought to national advertising. This must be carefully designed not only for our hopes but also to fit the requirements of our particular advertising picture. Its pattern will have to be suited to our geographical segment of the national market; its themes while providing an over-all promotional umbrella, must also be flexible for particular regional appeals. We are already far enough along in studies of this to know that we can solve the problems and create campaigns, national in character, which will give us strength here, for the first time, against the competition.

Changing of the guard: From left to right are Bob Gray, president of the National Fueloil Council and editor of FUELOIL & OIL HEAT, Glenn L. Werly, president, National Oil Fuel Institute; and Fred Heaney, president, Oil Heat Institute of America. The occasion was the final convention of OHI during which Werly made the keynote address emphasizing the merger of OHI and NFC.

"Some of this national advertising progress may go by stages, but I expect that the first stage will be launched as soon as practical. We will continue to encourage and foster local oil heat advertising campaigns by market groups. I believe that these have proven by their own record to date to have a very important place in the future of the industry.

"Our advertising, in its scope and maturity, is already in the big leagues, and it will grow bigger. In this context our advertising themes will also be big league. We will spend our money and our effort on getting across the strong story of our own product rather than in confusing the issue and leaving the customer confused by picking on the other fellow. However, where our product is exposed to unfair advertising, we know, and will use, the proper public relations methods to put a stop to this."

Werly also proposed early activity to improve the position of oilheating in "what might be called the technical area." He had in mind putting more manpower and money "behind fortifying our own product in relation to our competition in various codes and ordinances" to assure the industry its fairest possible break in the field.

He said NOFI will act quickly to

At the banquet several awards were made for outstanding service to the industry. That's Everett Elliot, Danvers, Mass., receiving the Aladdin Lamp award from Fred Heaney. Also receiving an Aladdin Lamp was George Gruberg (insert at left) general council for NOFI. Given Igniter awards were William F. Briggs, Sr., Middletown, Conn., (center insert) and Leonard Marshman, Mobil Oil Co. To mark the end of his two years as OHI president a watch was presented to Heaney and a special award made to Charles H. Burkhart, OHI, managing director which was accepted in his absence by Robert J. Griffin.

step up the good work already being carried on in the oilheating education field. "We have the materials, the methods, we have demonstrated success. This will now be translated into more training, more schools, more courses for development and improvement in this field."

Werly also promised that during this year NOFI will considerably expand in breadth and depth the present oilheat market research, "providing a much needed guide not only for national and local advertising but also in setting up basic information for effective sales action for our industry."

The new president also emphasized that the NOFI organization will depend for success not only on staff caliber and experience but also on the soundness of the organizational structure. "This must insure clear identification of responsibility and accountability with a minimum of overlapping or duplication of effort and contact."

In various group sessions of the Convention's opening day, details of the past year's history were reviewed by OHI president Fred Heaney, Distribution Division chairman Everett Elliott, financial chairman Charles Lang, educational chairman Robert W. Hundley, membership chairman Pat Caputo, public relations chairman Frank Brophy, and public relations executive Robert Myers.

Some highspot details were: The OHI group insurance program now covers 4,400 lives for total protection of 26 million dollars, with monthly premiums of $37,000; the Treasury of Advertising is running 40% over last year, although 31 million pieces were sold in 1960 with a value of $140,000; at the close of its fiscal year on February 29, the OHI had a cash balance of $42,000 and other assets of $24,000, with $33,000 liabilities; The Diamond Jubilee celebration last October resulted in 47 newspapers running special supplements on oilheating ranging from 4 to 16 pages each. New dealer chapters added were the Nebraska Oil Heat Institute, Lincoln, and the Rockford (Ill.) Fueloil Dealers Assn. One new manufacturer member was voted in . . . the Dura-Vent Corp., Redwood City, Calif.

In the Technical Division sessions, Ted Kaufman, Iron Fireman, was elected chairman for 1961, Frank Dunn, Atlantic Refining, vice chairman, and Dave Bottrill, NOFI, secretary. Retiring chairman M. J. Reed, Mobil Oil, presided at the meeting.

Reed appointed a committee composed of Earl Elmquist, Shell; Jack Collins, Esso; Wallace Cole, Texas, and Ted Kaufman to prepare a statement on the use of No. 6 oil at low firing rates. This came as a result of a Public Housing engineer in the New York area complaining of poor performance when using No. 6 for heat and hot water at 15 gph. There was some feeling that this low rate called for a lighter oil.

Dave Bottrill discussed his burner development in collaboration with Corning Glass Co., and later took the members to see it in operation at a Washington vocational school. He asked the members to send more books for the library at the Springfield (Mass.) Trade School where the industry has its only exclusive commercial-industrial training program. He said that the school also needs testing equipment of all kinds.

Charles Burkhardt, managing director of OHI, was unable to attend the convention due to an injury in a motor accident on April 22. At press time he is convalescing nicely.

William Bertolette, DuPont Co., for the Tank Corrosion Committee, distributed a report of figures gathered in the Pacific Northwest showing failures of 8/10 of 1% a year. This result is similar to that of studies by FUELOIL & OIL HEAT covering wider areas where tank replacements were typically 7 per 1,000 in use per year.

On the second day of the convention the Technical Division conducted

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Efficiency in Operation is Theme of Distribution Division Clinics

MORE THAN 400 dealers were in attendance at the OHI Distribution Division Management Clinics held on Wednesday and Thursday mornings. Everett Elliott, Danvers, Mass., moderated the first clinic which had as its theme, efficiency of operation.

The need for efficiency was underlined by Dick Wright, Iron Fireman Manufacturing Co., who took a look at the competition the industry faces. He said that Edison Electric Institute predicts that all new heating will be electric by 1975. To offset this possibility, Wright urged the fueloil industry to find out what consumers want—to market oilheating rather than just sell it. He also asked for more exact classifications for fueloil so that the new equipment being developed can be standardized.

Premium billing, a method of raising the fueloil price with this half cent or better being offered as a discount if the bill is paid by the 10th of the month, was discussed by Richard Morgan, Nassau Oil Co., Princeton, N. J. This system was reported in length in the December 1960 issue of FUELOIL & OIL HEAT, p. 24.

A new fuel dispatch computer for automated fueloil deliveries, schedules and forecasts was described by Joseph Karp, Lockheed Electronics Co., Metuchen, N. J. Now in the field-trial phase, the computer will provide information on tank size, K-factor, degree-days, price per gallon, gallons to date, this season, number of deliveries, date of last delivery and hot water use code.

The computer can upon command prepare special lists of accounts by number, by zone, within degree-day limits, and degree-day or will-call accounts. The system is expected to eliminate degree-day cards, filing errors, manual calculations. Because it requires no special skills to operate a smaller clerical staff will be necessary.

Also on the Wednesday program was Joseph Berry, Greensboro, N. C.,

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PHOTOS—Len Gassner at top, exec. sec. OHI of Oregon, host to convention. Next is Al Loucks, program chairman, visiting with Harry Myers of Bremerton, Wash. Then Dr. E. W. Gardiner of California Research and Jim Gilleland, president OHI of Washington. Finally, the almost headless Robert Inman, Oregon OHI president. To those men and ladies who were "shot" and don't appear . . . you were too fuzzy because a fine German camera was shipped out in a personal bag and the airline clobbered it out of focus.

Pacific Coast Convention brings record Crowd to Portland

WITH 764 REGISTRATIONS of industry men and with 1,011 tickets sold for the banquet at $15 each, the annual Pacific Coast convention of the OHI set a new record. Industry problems . . . and programs of recent years . . . have brought to fuel-oil and oilheating men of the Northwest an ever growing interest in cooperative ventures to help fortify the industry. The annual convention is the sounding board.

The major credit for the very successful turnout and the many features must necessarily go to Len Gassner, the executive secretary of the OHI of Oregon, which was the host group in this year. The convention rotates between five cities, last year at Reno, next year at Spokane.

In addition to Gassner and his staff, a group of industry men put a lot of time into the planning and steering of the whole affair. Heading these was Cliff Arnston, Albina Fuel Co., as general chairman. Then Al Loucks, Salem, was program chairman; Roy Lindsay, Economy Fuel Co., headed entertainment with an active program in golf, fishing, bowling and the banquet entertainers. Frank Davies was chairman for housing, Jim Coon (who incidentally was elected the new president of Oregon OHI) headed the committee for exhibits; Roy Rockwell steered the transportation problems; Sid Smith was attendance chairman, and Betty Parri headed the group that did a great job for the visiting ladies.

With 18 speakers in the two days it is only possible to bring a few quotes from most of them since this is being written under the wire at press time. There was a complete transcript made of all talks and copies can be had at $10 by writing OHI of Oregon, 433 NE 22nd Ave., Portland 12, Ore.

On the opening day Mose Vining of Seattle welcomed the group as chairman, followed by Mayor Terry D. Schrunk of Portland with a welcoming gesture. The second day's chairman was Robert Inman, retiring president of Oregon OHI. A few impressions from each speaker include those that follow:

Arthur Cannon, vice-president, Standard Insurance Co., Portland . . . The economy of western Washington is based on defense industries, of western Oregon on lumber, the balance of the Northwest on agriculture. In the past 10 years Oregon grew 15.4%, Washington 18.7% while the national average was 18.4% . . . but California went up 46.8%, Nevada 75.8%, Arizona 71.1%, with growth largely based on favorable climate. A chart by Cannon showing the effect of family formation on home buying will be published some time later.

W. E. Dubin, marketing manager, Tidewater Oil Co., Los Angeles . . . "Too many of us are victims of our competitive industries' propaganda, touting benefits we know are untrue . . . in new individually-built homes of this area oil heat is favored five to one . . . gas competition has been healthy for the industry . . . the Northwest future is as secure as we are determined to make it and we are moving ahead, but 25 years of industry apathy can't be fully cured in five years."

Gerry Frank, vice-president, Meier & Frank Co., Salem, Ore. . . . "Business is tough, nobody is breaking down our doors these days, they're shopping . . . there must be some special appeal, from the basic principles of merchandising . . . the larger you grow the more certain you must be of close customer relationships . . . Use complaints to sell yourselves and your company; don't win the arguments—save the cus-

Northwest Advertising Budgets approved for heating season 1961-62 by Regional Advisory Committee of the Northwest

Inland Empire (around Spokane)	$ 64,300
Nevada	6,200
Oregon	142,947
Washington	194,830
Alaska	32,070
TOTAL	$440,347

tomers; they cost a lot to get so be generous . . . growth comes only by competitive spirit; resting on oars means on the way out."

H. B. Douglas, division manager, Richfield Oil Co., Seattle . . . "Out of each 10 fueloil dealers two or three are extremely aggressive, the others taper off . . . when a strong dealer gets an account from a weak one the loser always suspects a cut price or "dirty pool" but if he takes one it's fair play . . . the more the name is known the better chance to get the new accounts; dealers can well afford time and hard work for service clubs, community affairs . . . make consumer sampling tests to learn if your sales promotion is working . . . new business can be had through energy, imagination and sales expense."

A. W. Stearns, national fueloil sales manager, Texaco, Inc., New York . . . "The Pacific Northwest has done the most outstanding job and gotten the best results in meeting other fuel competition . . . your Equipment Allowance Program is the answer; it will continue to grow . . . but don't place too much reliance on programs as such —they can become a crutch . . . we expect the large marketing companies to minimize brand advertising and push more for public acceptance of oil heat . . . we can't save our markets alone, we must 'individually' plan and work collectively."

Calvin MacCracken, president, Jet-Heet, Inc., Englewood, N. J. . . . "Change or go out of business—the sensitive man has been automated out of his job . . . there are two primary equipment needs—a low cost burner competitive with gas, and units that move heat faster in small packages . . . we need some type of oil industry support to offset the gas industry's investment in mains, meters and such items that are the equivalent of our tanks and which they supply free in most instances . . . at the factory level a 55¢ nozzle won't perform without $37 worth of pump, relay and motor . . . the future includes induced draft types that can use the new L vent.

J. L. Minner, national manager, fueloil & LPG department, Shell Oil Co., New York . . . "Our future is largely dependent on the development of oil consuming equipment . . . the research program sponsored by the Fuel Oil Committee of API was designed to help the equipment manufacturer who can't alone afford to make basic fundamental investigations . . . our 49 research projects heading up under Dave Locklin of Battelle and Jim Livingston of Gulf all funnel toward the two objectives of market retention and market acquisition . . . indications are that the API million-dollar-a-year program will carry on for years."

Robert Gray, editor, FUELOIL & OIL

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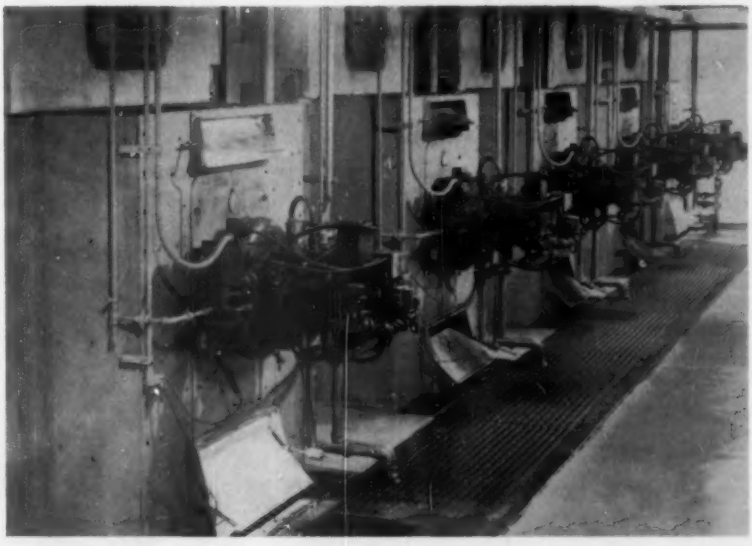
The world's largest shopping facility is Lloyd Center in Portland, shown in the lower center of this photo. It has two levels for auto parking, some of the building's three levels. It is entirely heated with oil, PS400 (No. 6) using five No. 9 Ray oilburners each firing 150 gph, and illustrated below. These were installed by Campbell-Norquist & Co., Portland, which group also installed four No. 8 Rays in the new municipal auditorium shown at upper right. Just across the street beyond the shopping center is the Sheraton Hotel, where the convention was held, and the larger building to the left of that is the Interior Department (Bonneville) Building, both heated electrically.



API Fueloil Committee studies Education, Codes, Subsidies

THE FUELOIL COMMITTEE, Marketing Division, American Petroleum Institute, held its annual workshop meeting at Point Clear, Ala., on May 1 and 2. Present were 46 members and about two dozen guests.

The first day was occupied with meetings of eight sub-committees followed by their reports to the total group. The second day featured four special studies in which individuals outlined the topic and then the full membership carried the discussion.

In opening the workshop, A. Jack Becker, committee chairman, outlined the former accomplishments of the Fueloil Committee. He noted that the widespread cooperative advertising campaigns which have now reached a $3 million level were initiated by this committee and the same is true of the new National Oil Fuel Institute which has just come into being. Becker considers the FO Committee a professional organization that can make thorough investigations of industry problems followed by recommendations.

J. L. Minner, chairman of the Research Sub-committee, noted that the whole research effort was born three years ago in a meeting at that same hotel, and has now advanced to the point of about a million dollar annual investment aimed at distillate oilburning improvements.

He told of the Chicago technical symposium in March where 67 manufacturers of oilburning equipment met with 55 scientists from the oil industry to discuss a dozen special papers of mutual interest.

Dave Locklin, Battelle Memorial Institute and coordinator of the entire research program, described the recent letting of contracts to a number of professional laboratories to undertake specific parts of the program. He noted that each project is under control of a special panel of industry experts, and he considers these panels to be "The heart of the entire research effort."

Minner asked the group to approve a request to API for financial support to continue the research program through 1962 at the same level as this year.

Carl Jonswold, legislation committee chairman, mentioned that there were areas of interest in current wage and hour bills, also municipal user taxes that have given the industry some trouble. The principal report of this committee was tied into feature presentation of the second day.

For the electric heat competition sub-committee, Chairman Charles Kramb asked various members to share the report. Member Hollis Albert suggested that the entire Fueloil Committee help to identify areas of greatest interest in electric heating. In his view, the electric industry has not yet launched anything like a full scale offensive. Paul Adcock reported on avenues of distribution for electric heating and showed how the utilities are willing and anxious to engineer the individual jobs and advise on the best types of equipment.

Member Fred Griffin outlined the basic strengths and weaknesses of electric heating from the consumer standpoint. In a long list of characteristics, a few high spots show that the typical equipment installation costs $100 to $150 less than oil heat; the rapid rise of electronics leads people to believe that electric heat is more modern; the utility has strength through being a monopoly and is free to offer subsidies and absorb their costs within the rates; they have subsidized builders as high as $400 a home if all energy is fully electric; some utilities will put all wiring underground without charge for an all-electric home.

Member Reggie Moffat presented an illustrated talk on the present promotional activities of the electrical industry aimed at heating. Because this conveys a lot of information not previously understood by oilheating men, the Moffat paper will be reproduced in an early issue.

Francis Schuster explored the possibilities of cooperation in various trade associations to counteract electric heating, particularly NOJC, NOFI, the several state associations and the API Fueloil Committee.

Wiley Butler, chairman of the new projects committee, made four recommendations: 1. Study ways to modernize automatic delivery systems. 2. Try to interest large equipment manufacturers in developing a smaller and

Leaders of particular subject discussions at the Fueloil Committee meeting included, from the left: Wm. F. Briggs;

A. Jack Becker, committee chairman; Carl Jonswold; Ralph Hartell; Reggie Moffat, Ed Heeg and Charles Kramb.

cheaper oil-fired airconditioner. 3. Request NOFI to study fueloil dealer economics in typical operations. 4. Retain the fueloil committee permanently and establish the liaison for close working with NOFI.

Chairman Becker then asked that each sub-committee chairman become a member of this liaison committee with Butler heading the group.

For the fueloil characteristics subcommittee, Chairman Fred Haab told of the work being done within the ASTM and the imminent probability of having the standards specifications for fueloils upgraded during this year.

For the market development subcommittee, Chairman Tom Scott proposed: 1. Studies towards cost equalization with gas and electric heating in the field of equipment and service. 2. The introduction of new, more dramatic equipment which has already been started by a few manufacturers. 3. That oilheating dealers more strongly emphasize central airconditioning even though it is electrically powered. 4. Stronger merchandising efforts particularly demonstrating to builders how this industry is developing new equipment.

Tank Materials

Joe Collins, chairman of the plastic tank sub-committee, described how his members had made many inquiries, consulted many suppliers of plastics, glass and electro-chemicals as well as fabricators of products from these materials. At present, oil tanks from these materials would be too costly . . . typical is a 300 gal. plastic tank costing $100 to $150, although one manufacturer could produce a 275 gal. basement tank for $53 and a 1000 gal. size for $159. These prices are much lower than those of all other manufacturers interviewed, and naturally assume that substantial quantities would be committed. Collins feels that the industry would not pay the necessary premium over steel tanks although in time, he believes the cost will be comparable.

Tim Loizeaux, chairman of the subcommittee for the oil-powered home, introduced Cal McCracken as a new member of the group. McCracken explained at considerable length the increase in competitive pressures that has occurred in the last three years. He told the members that the new trend in government thinking toward home building shows no intention to penalize quality, but rather to reduce maintenance costs over longer mortgage periods. This opens the door for more expensive initial installations which make a home more attractive for higher loans. The thought here is that with mortgages up to 40 years and little maintenance cost due to superior equipment, better homes can be sold to lower income families.

New thinking in the home improvement sections is that such loans should be increased from $3,500 to $10,000 on a 25 year basis at 6% interest. McCracken described this changing situation to point up the better atmosphere for any type of new heating also including airconditioning. He discussed the development of the gas turbine for fueloil operation having in mind the oil-powered home through the medium of electrical generation for all purposes.

Loizeaux told of the work done in trying to arrange for an oil-powered home at the New York World's Fair in 1964, describing this as a million dollar project including research.

Following the committee reports, Glen Werly, NOFI president, told the group that May 26 is the date selected for the first meeting of the temporary Board of Directors to approve the legal details of the merger of NFC and OHI with a target date of the actual combination on June 1. He told of the new office quarters now in use at 60 East 42nd St., New York.

He believes that the organization could employ three additional top-grade men, a full-time technical man to work on codes, housing, etc., an educational director to sponsor and assist in the development of more oilheating schools, and a market research man.

On the second day of the meeting, William Briggs led the first discussion on the subject of better education and training to provide the finest possible oilheating. He principally discussed the work of the New England OHI classes in quite a number of cities, a project that has been growing since its start 16 years ago. This educational undertaking was described in detail on page 54 of the May issue following a Boston conference at which both Briggs and V. M. Douglas, FUELOIL & OIL HEAT associate editor, had studied the activity with officials of OHI of New England.

Various members told of service training courses in their markets, but all agreed that the industry still needed many more high-grade technicians.

Ed Heeg presented a paper on the problems of local codes and ordinances as they affect oilheating, often in an unfavorable manner due to a lack of suitable presentation on our part. Because this paper brought many fresh angles it is being published almost entirely elsewhere in this issue.

Competitive Subsidies

Carl Jonswold and Charles Kramb next made a presentation on the very difficult subject of competitive subsidies. Each is a chairman of a sub-committee and in turn asked their members to supply examples of what they consider unfair competitive advantage by this route. Using actual field cases they found situations in the gas industry running as high as $200 allowance on the cost of mains if heating is included in a builder development.

In another market, the gas industry makes a cash donation of $50 retroactive after the fifth home is built if a development is all gas . . . this same utility allowed large builders $50 a house for advertising plus free lines from the street.

Another city has no charge for gas mains if the builder agrees to heat three-fourths of his homes with gas. There were many instances where combination utilities delayed the builders at every turn on their electrical connections unless the homes were to be gas heated, in which case they gave almost instantaneous service.

There were instances of electrical utilities making straight $150 allowances to builders who included electric heating. Others where the utility would not supply gas for cooking unless gas heat was included. The foregoing are a few typical examples of many related

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Oilheating and the Regulations

The Battle for good Codes and Ordinances must be fought by the entire Industry

by Edward T. Heeg*

WE ARE aware that, with the exception of our larger cities, few areas have codes that specifically govern the installation of oilheating equipment. And I don't know of any area that has efficiency or performance standards that oilheating equipment must meet. We know that most installations have to comply with Underwriters' specifications, but these are minimum standards, and lacking inspectional and enforcement procedures, seldom have any significant effect. But within the past few years we find that in many of these areas where no codes were in existence, the officials concerned were suddenly adopting and enacting the strictest possible regulations for the installation of oilburning equipment—regulations so unrealistic and restrictive that an oilheating installation made in compliance with these codes was priced right out of competition with other fuels.

We might ask what impelled this sudden decision on the part of the governing fathers to so drastically control an industry that heretofore was ignored. Was it because so many unsafe installations were being made or had been made, that public safety demanded the enactment of these regulations, or . . . was there some other reason? After some investigation, the answer became quite obvious. The reason stood out like a sore thumb—I found that in almost everyone of these areas the adoption of restrictive legislation on oil heat coincided with or followed shortly after the introduction of natural gas in that area. It became quite apparent that very strong utility lobbies had been instrumental in having these laws introduced and passed.

I also found that the oil heat industry in these areas was either not organized, or had never established a liaison with the officials concerned and, consequently was ineffective in opposing the onerous regulations and had no voice in suggesting a good realistic code. Consequently, when the organized utility factions moved in and wooed the public officials, they had no opposition in putting another road block in the way of oil heat.

One thing you must give them credit for though . . . while they were recommending controls for oil heat, they also recommended regulations for the installation of gas heat. But you can be sure that these regulations were realistic. They were tailormade—just the way they wanted them. They substantiated every recommendation affecting their product with evidence of safety and performance tests, made by themselves of course, but tests nevertheless. In view of the lack of opposition by our industry the governing fathers had no alternative but to accept them.

This unfair condition exists in many areas today and is continuing to develop in other areas—and we can look forward to increased activity in the legislative fields on the part of the gas interests—particularly in those sections where our oil heat promotion campaigns have been successful in slowing down gas installations or where oil heat enjoys a definite advantage in economy. And unless something is done and done immediately, this is a burden that our industry will have to carry for many years, because once these restrictive codes are adopted it is difficult and in many instances impossible to correct them.

Even in those areas where good codes do exist, the industry is still vulnerable, and is constantly under attack. We in New York City have probably one of the strictest codes in existence—and this may well be necessary, due to the density of the population. But while we have a strict code, we do have a realistic one. Our code is over 42 years old and I think one of the most significant things about it is that it has been amended 24 times since its adoption. Most of the time at the request of the industry, and for the reason that innovations in new equipment have been made, and because the product has by its record proven to be relatively safe.

In spite of this strict code, we must be constantly alert to keep the utilities and the plumber's unions from having stricter regulations imposed. One of the newer attack areas the utilities have developed is in the field of air pollution. Here we are particularly vulnerable because we must, of necessity, admit that when residual fueloil is improperly fired—it's emissions are almost as bad as soft coal, and that, therefore, reasonable regulations may be necessary.

But we certainly do not have to offer any apologies for modern distillate fuel for even in the poorest installations the emissions are innocuous, and compare favorably with those from a comparable natrual gas installation. Yet, in certain areas, air pollution authorities, needing a whipping-boy, have picked on fueloil and have imposed stringent regulations, meanwhile granting complete absolution to natural gas.

*This is a slightly condensed version of Ed Heeg's talk at the Point Clear, Ala., meeting of the API Fueloil Committee. Heeg is the executive vice president of the New York Oil Heating Association.

We in the New York City area were made aware of how powerful a weapon this could be for the utilities, and we became cognizant of the pressures that are brought to bear . . . when we suddenly were aware of the fact that the local utilities with the support of GAMA and AGA had proposed certain changes in the then existing air pollution code. This code treated both fuels equally, but, under the proposed amendments, would have completely exempted natural gas from any controls meanwhile imposing additional regulations on oilheating installations.

A powerful Weapon

These proposed changes evidently had a twofold purpose—first, to give natural gas an advantage in not having to go through the complicated filing procedures with the accompanying high filing fees—and second, and the most important advantage . . . and the one that we nearly overlooked in our first reading of the proposed amendments, was, that if these changes were adopted, granting natural gas complete exemption from air pollution control, the utilities would be handed their greatest . . . and in some areas, their only selling point. That is, that gas heat is obviously the cleanest fuel since it is the only fuel exempted by the "Greater New York City Department of Air Pollution" from air pollution controls.

Consider what this could have meant from a promotional standpoint. We have three important fueloil sales points: economy, safety and cleanliness. In most areas in the Northeast fueloil still maintains a price advantage. There is no question as to which is the safer of the fuels. But, which has been up to now one of gas heat's most important selling point, cleanliness, would have been substantiated by the air pollution authorities in spite of all the money we in the industry had spent trying to gain public acceptance of our product as a clean product. And I believe we have pretty well convinced the public that fueloil is as clean as gas. It appeared now that if these proposed amendments were adopted our claims would no longer be true or justified.

To point out how efficiently and with what power the utilities work, in spite of what we thought was a good relationship between our association and the Department of Air Pollution, we had only two weeks between the time that we first heard of these proposed changes and the date of the public hearing. Naturally, in such a short time it was impossible to come up with any valid and substantiated arguments with which we could hope to sway the the board's opinion—particularly when at the public hearing in support of the utilities claims for exemption, they had as speakers not only their own representatives but representatives from GAMA and the American Gas Association and these boys were loaded for bear. And, in addition, they apparently had aligned on their side a former Deputy Commissioner of the Department of Air Pollution who had resigned two months previously and who, speaking in their behalf, congratulated the Board on its farsightedness in considering the adoption of regulations that would encourage the heat consuming public of New York City to use a cleaner fuel.

We had to concentrate on obtaining an extension of time in which to analyze the situation and prepare a brief that we could substantiate with facts. In the initial hearing we were granted a 30 day extension and subsequently, on personal appeal, were granted an additional 30 days.

After leaving the hearing I felt that we had accomplished a great deal. I thought that the additional time granted was ample, and that I merely had to call up some of our national associations and obtain all the facts necessary to refute the claims of the utilities and to support our contention that distillate fueloil and natural gas were equally clean. Believe me, I spent the next ten days in the most frustrating search finding out at every turn that we were a completely unorganized industry; that there was no central point where this information was available and that no full-scale research had ever been conducted to determine the products of combustion of distillate fueloil and what part they played in air pollution.

Some semi-confidential tests had been made—notably the one at Armour Research Institute—and to get the results of this one I had to move heaven and earth to borrow a copy of the report for a few days, and then had to go to great expense to reproduce it when we decided to use it as part of our brief.

Despite my disappointment in not

Fueloil should be, but won't be represented at the APCA convention.

"I visited libraries to study about air pollution, talked to health officials in Washington, D. C., the APCA in Pittsburgh, spoke on the phone to professors in California, Illinois and Kansas and to Tulsa and West Coast associations."

being able to readily obtain material, and the failure of other agencies and associations to recognize that what happened in New York City could affect the industry throughout the country and that their full cooperation and assistance was needed, I still felt that our original contentions were right and that this was a battle worth fighting.

I then embarked on a 15 hour day program of research, reading air pollution bibliographies and obtaining and reading every article that even remotely concerned our problem. I visited libraries, plus health officials in Washington, the Air Pollution Control Association in Pittsburgh, I spoke on the phone to professors in California, Illinois and Kansas, I contacted associations in Tulsa and on the West Coast.

Our treasurer almost blew a fuse when the bills for all these activities came in. And believe me, he had reason to, for it's rough when a local association has to, out of its limited budget, spend over $7500 to combat a situation that has national ramifications. In addition, another considerable sum was spent in engaging a consulting engineer who is prominent in air pollution work and whose theories and opinions agreed with our thinking, to prepare a paper on the subject.

After analyzing all the material we had obtained, we compiled and submitted a brief that conclusively proved our contention that the two fuels in question were very similar in their emissions and should be accorded equal treatment by air pollution authorities.

But, in spite of this positive evidence that it would be unfair to differentiate between the fuels, the Board saw fit to grant the exemptions to natural gas. We were able to retain the exemptions from filing procedures for certain distillate fueloil installations that we had enjoyed in the past. While this seemed a minor victory, it at least prevented the utilities from claiming that gas was the only fuel that was exempted from air pollution control. So, even though this appeared to be a small victory, to the industry as a whole it was an important one.

I have castigated the industry for reasons of its unpreparedness . . . the lack of materials for the local associations to use, and no participation in related activities on the national level. And I cite, as a horrible example the forthcoming convention of the National Air Pollution Control Association, a convention incidentally that will be attended by every important air pollution official in the country. Let us just look at what is going to happen on the morning of June 14th when the subject for discussion is "Fuels." The chairman of this important committee is Louis A. Winkleman, mechanical operating engineer. And by whom is he employed? Public Service Electric and Gas Company, Newark, N. J., of course.

And on what important subjects are papers being presented? Let's take a look: Coal combats air pollution. Something to do with automobile exhausts. Third and last, the gas industry and its contribution to air pollution control, delivered by C. George Segeler, American Gas Association. And, if past performance is any criteria, this last one could be a lulu of a fairy tale. Probably once again Sir Natural Gas will ride up on his gallant charger "Pipe Line" and cure all the ills of the poor besieged consumers who are dying from the effects of using other fuels.

Just imagine what effect it has on the minds of air pollution officials who, when the gas boys visit them at home with their recommendations, are already brainwashed to grant them concessions. And what is being presented on behalf of the great oilheating industry? Not a thing—we're conspicuous by our absence. The mere fact that we are not presenting a paper, by inference, implies that there is nothing good to be said about our product. We know this is not true, but who is telling it to the people who should hear it. This is only one instance. There is documented proof that we have not been actively or properly represented in other areas such as the FHA, NFPA, BOCA (Building Official Conference of America) and so on through the alphabet, with the net result that the gas industry is constantly gaining on us in professional and legislative acceptance.

An Answer for the Future

But, is there an answer for the future? I say yes. I have not been entirely right in my castigations, for certain steps have been taken to put the industry on a solid basis. OHI, in the development of their recommended codes B58 which outlines safety and performance standards for the installation of residential boiler and furnace units using distillate fuel, and their Code B59 which covers the installation of conversion and replacement of oilburners, has developed codes that the industry can live with. These provide an important tool for our industry in areas where no codes presently exist.

These two codes are realistic and have gained national acceptance, and local associations should encounter no serious opposition in recommending them to authorities or in having them

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Values for the Future

We spend a Lifetime creating an Estate, so let's see how it can be conserved

by Irwin Hochberg, CPA

TO EVERY fueloil distributor his family and his business are his prime interests. Daily this concern expresses itself in the manner that provision is made for the care and welfare of both. Planning the future should be considered among the major responsibilities of every businessman. This planning includes provision for eventual retirement as well as provision for the support and maintenance of members of the family in the event of death.

The oft repeated argument of the small businessman who delays reviewing his estate and its values is that his estate "is too small." How many of you have said "I am providing for everything to go to my family?" Some of the numerous factors involved in proper tax planning, disposition of business equities, life insurance, and employer benefits as they relate to "Planning for the Future" will be reviewed here in the hope that they may serve to create an awareness of the problems and lead to a review of your personal estate with your advisors.

Asset Distribution

We all have a will. If you have not prepared one for yourself, the state has prepared one for you. You must decide whether your desire for the distribution of your assets upon your death coincides with the manner that they would be distributed under the laws of intestacy. In most cases, the will tailored by the state will not fit your particular needs. You may not want your property to go to those to whom the state will give it. You may be able to save thousands of dollars in taxes by distributing property in a particular way. Remember the state has no desire to save you taxes.

Every individual has the right to prepare his own will. Few, however, have the ability. Just as you would seek the services of a surgeon where a medical operation is required, so should you seek the advice of a competent attorney in the preparation of a will. A will drawn by yourself could result in litigation to determine your intention as to ambiguous phrases at a time when you will not be here to testify.

The laws in the different states vary, and you would be well advised to consult with your attorney to avoid the difficulties which might ensue. For example, there may be provisions in the state laws which affect your right to disinherit your wife and special rules may prevail regarding your right to disinherit children.

The proper plan for an estate must provide for the disposition or retention (to the best interest of the survivors) of a closely held business. You must first determine who will be in a position to run the Company in the event of your death. A partnership or a corporation which has other large shareholders would frequently make provision for capable and competent management to succeed the deceased. If this successor management is available every attempt should be made to provide, by agreement, for the continuation of the business and a basis established for the purchase of your interest by it, if that is your wish.

An interesting case, which eventually found its way into the courts is worthy of mention. It illustrates the necessity of providing for the proper continuation of your business by its capable managers without unnecessary outside influence. The case involved two partners in a printing business.* They were equal stockholders, and were brothers-in-law. One was married to the other's sister. While alive, they enjoyed a very happy and prosperous relationship.

Neidorff, who was married to his partner Radom's sister, died. Neidorff willed his share of the business to his wife and to his dismay Radom found that his sister was associated with him in the business. During the ensuing three years, brother and sister could not reconcile the numerous difficulties that developed between them. Eventually, the sister even refused to sign Radom's salary checks and Radom instituted an action to dissolve the corporation. Whatever alternative the surviving partner chose at this point would be expensive, and would probably result in a loss of the full realizable value of the enterprise.

A company might be operated extremely well by its stockholder officers who generally make up a successful team. Often the ability of the one of the members supplements that of the others. Some may be inside men, others outside men. One may be an engineer, another an accountant or attorney. Still another may be a salesman whose special talent lies in his ability to solicit and obtain new accounts. Where one man is weak another may be strong and the integration of these many talents into one enterprise may be the factor that makes this operation a successful one. What happens when death strikes a member of this team?

Transfer of Stock

As all businessmen know, the death of a stockholder does not affect the existence of a corporation. Your shares of stock will pass through his estate to your heirs. Then, in the place of the once active stockholder stands your heir. This may be your widow, son, mother, father, or mother-in-law who now has the same voice in the management of the business as you had.

The problems presented by this set of circumstances which we find very frequently repeated are numerous. For example, note the possible alternatives available to your heirs to the business:

1. Become active in the business.
2. Sell the stock to an outsider.
3. Retain the stock as inactive investors.
4. Negotiate for the sale of the stock to the other stockholders.

Each of these possibilities presents new problems to the survivor. Add to this the fact that the survivor is at a

*307 NY 1.

decided disadvantage and without full knowledge of the business and its affairs, the industry, the employees, and the financial community.

A stockholders agreement, embodying a buy and sell agreement presents the solution. No two such agreements are alike, however basic approaches and purposes should be similar. These include:

1. Keep the corporation "closed," by restricting the disposition of stock to an outsider.

2. Price to be paid for the stock should be set forth in the agreement. Remember that the value on the books of account may not reflect the full value of the business.

3. Life insurance can be used to provide the funds with which to buy out the estate of a deceased shareholder.

Your affairs and planning the future of your business can best be undertaken with the proper use of the guidance available to you by able advisors. Each has its own place and the function of one complements the other. It is indeed an able business manager who is able to make full use of all the fine professional talent available to him today. Not to avail yourself of the services of such experts is to be short sighted. Where cost is involved, it will produce an economy in ninety-nine cases out of a hundred.

Your attorney—Practice of the law has become a field full of specialists; the average practitioner is not familiar enough with the subject of estate planning to handle these subjects adequately. When you have assembled your objectives, you should secure the services of a lawyer who specializes in estate planning. His help is essential and you should make full use of his guidance in determining what is needed and whose help is required.

Your accountant—Pick a good one, for this is a valuable man. The tax consciousness felt today by every businessman is generally keenly expressed by the accountant in his understanding of taxes and the tax effects of your transactions.

He should prepare a periodic analysis of your financial affairs and work closely with your lawyer in examining the overall condition.

Your insurance counselor—Today, after many years of high pressure selling, numerous insurance experts are beginning to emerge who are highly trained and well informed in estate planning matters. They are salesmen, of course, but many have come to realize that sales should be made only where they make sound sense.

Your insurance salesman will be fully cognizant of the "fine print" in the policies and its meaning. If in your situation life insurance protection is required, the insurance counselor may save you money and grief, get you maximum protection, through his technical knowledge of the intricacies of the insurance business.

Your banker—Your banker, like the insurance advisor is a salesman. It is his desire to have you appoint his bank to some fiduciary or similar office. He may have some attractive suggestions for you, so bring them to your lawyer or accountant for advice.

A complete analysis should be made of your prospective estate periodically. This will afford you an opportunity to see your personal affairs and financial condition in much the same way as a balance sheet reflects the financial condition of a corporate venture. It will also:

1. Disclose the true size of your disposable estate.

2. Disclose the disposable estate in actual items of property.

3. Lay an intelligent basis for a sensible and constructive organization or reorganization of your estate plans.

Here is an illustrative estate, for a fictitious Mr. Jones. He owns a retail fueloil business in New York and has property there and elsewhere.

ASSETS OF MR. JONES

	Estate Value
Cash in bank and on hand	$ 5,000
Life insurance, proceeds	75,000
Value of Jones Oil Company stock (50%)	350,000
Residence value	45,000
Real estate investments	55,000
Personal property	40,000
Securities investments	20,000
Total	$590,000

Notice the effect of federal estate taxes on Mr. Jones estate, based upon the foregoing illustration:

Gross estate		$590,000
Less: debts	$40,000	
administration expenses	25,000	65,000
Taxable estate		525,000
Tax if marital deduction is used		51,450
Tax if marital deduction is not used		134,500

A saving of $83,050 results from qualification for the marital deduction. This is a deduction which is allowed for property which passes to the surviving spouse which meets specified conditions. It is limited to 50% of the adjusted gross estate. Counsel should be consulted to determine specific qualification under this clause.

Now that Jones is aware of the tax consequences and the value of his total estate, he should determine what cash or liquidity needs there are in the estate. Cash needs to Jones would be:

Debts	$ 40,000
Administration expenses	25,000
Estate tax (marital deduction used)	51,450
Total	$116,450

At this point in the analysis of the estate the "team" must review the cash position of the estate in the light of its needs and make necessary provision for it. Then, such corrective steps should be taken as become necessary, such as:

1. Provision for the sale or other disposition of the Jones Oil Company stock.
2. Gifts of stock during lifetime.
3. Charitable donations.
4. Use of charitable foundations.
5. Purchase of life insurance.
6. Creation of various types of trusts.

In addition to very substantial and attractive income tax savings, pension plans, profit sharing plans, stock options and other fringe benefit plans offer an important estate tax saving which should be integrated with your other estate plans.

From 1945 to 1958 it is estimated that employee coverage under pension and deferred profit sharing plans rose from a total of 6.4 million to 19 million employees.

"Qualified plans" are those which are considered acceptable under the provisions of section 401 of the In-

ternal Revenue Code. Amounts you contribute as an employer to the qualified plan are deductible on the income tax return for the contribution year. This permits the employer to accumulate funds for the future benefit and use of the employees at the same time it offers no current tax burden to the employee while the plan fund itself grows. The income it earns is wholly exempt from tax. And, most important to the plan members, the employees under the plan are taxed only on the benefits. They pay no tax while their funds are accumulating. Note these interesting additional considerations in a profit sharing plan which spell out their flexibility.

1. If benefits are paid to employees in a lump sum, they will be taxed at capital gain rates.

2. When the plan benefits are eventually distributed in installments, you are in a lower tax bracket and will retain more after-tax.

3. To the extent of company contributions, the employee's account under a plan can pass free of estate tax to his beneficiary.

Deferred Plans

A very beneficial tax saving tool involves the use of "Deferred Compensation Plans." Your plans for retirement would be substantially affected by an assurance of a continuing income, at the time when you leave employment partially or completely. In addition, the obvious advantage of reducing income in "high bracket" years and increasing it in what would otherwise be low bracket years offers the attraction of a greater "after-tax" income. For example, a married man filing a joint return with taxable income of $24,000 will realize only $2,280 out of a $4,000 increase in salary, and it becomes increasingly difficult to accumulate any sizable amount out of present earnings to provide for retirement.

A properly drafted "deferred compensation" agreement will permit the executive's income to be spread over years beyond the normal productive ones. Care should be exercised in drafting agreements of this type for it is essential that the employer receive the deduction in the "retirement" years. Some ground rules have been set forth by the Internal Revenue Service in Revenue Ruling 60-31 issued in 1960.

It is interesting that actor William Holden negotiated a rather attractive "deferred compensation" deal before he actually made "The Bridge on the River Kwai." Basically, it provides for 10% of the picture's gross payable at a rate not exceeding $50,000 per year. At the rate originally estimated, Holden will not finally be paid off until he reaches 90. But notice the dramatic tax savings involved. If Holden's 10% was payable in full as received by Columbia, he'd have had no more than $325,000 after taxes. This way, he may end up with $1,500,000 after taxes.

Realistic Appraisal

Your appraisal of the condition of your own estate may best be approached with an organized review of the present facts. You should, therefore, undertake to compile them or have them compiled for you so that the guidance you seek can take on a more realistic meaning. The check list which follows is intended to serve as a guide. Some items will not apply in all situations and there may be some unique personal problems in your case which are not covered here, but the list should be helpful in any event.

1. Your will should be available.

2. List all close relatives and consider your selection of beneficiaries.

3. Prepare a personal statement of assets and liabilities.

4. List and accumulate all insurance policies.

5. Assemble all evidences of ownership such as:
   a) Deeds
   b) Mortgages
   c) Notes
   d) Securities
   e) Employment contracts
   f) Pension plans

6. Consider gifts made during lifetime.

7. Review any agreements related to business interests such as buy-sell agreements.

8. Marital agreements should be reviewed.

Any data related to the above schedule as they apply to your spouse should similarly be listed and considered in the light of a joint estate analysis.

A well organized estate planning program should take into account the benefits to be derived from giving gifts during lifetime. Aside from overall tax advantages the donor of a gift may, during his lifetime see the recipients, usually loved ones, benefit from the use of the property which is given to them.

The tax advantages involved in availing yourself of the ability to give gifts during your lifetime result from the fact that the gift tax rates are only approximately ¾ of the estate tax rates. In other words, it is less costly to have your beneficiaries receive your property while you are alive rather than after you die.

There is no federal gift tax if the gift does not exceed allowable exemptions, which are:

	Donor Married	*Donor Single*
Lifetime	$60,000	$30,000
Annual (to each donee)	6,000	3,000

The married exemptions apply where the spouse consents to the gift. Thus, if married and your wife consents, you may give up to $6,000 in gifts to each child annually without subjecting it to gift tax, in addition to an overall lifetime exemption of $60,000. For an estate subject to the Federal Estate Tax, the property gifted may escape the tax completely and the recipients will realize a greater sum in the end.

Plan now

At the very least, you are now fully aware of the many areas affected by your plans for your estate disposition, which is what this discourse has sought to accomplish. Some areas with which you are concerned will offer a great deal of latitude in providing for your wishes in planning your estate. In other areas, you may be limited by law, by agreement, by morals or by the economic considerations involved. In either case, muster all the facts, secure competent guidance and above all do not procrastinate the putting your affairs in order.

Remember that you spend a lifetime creating and accumulating an estate, so why not spend just a few minutes to conserve it.

Would diesel Engines cut Costs?

Fuel Economy may not be enough, here is an overall Examination of diesel Trucks

by Chet Cunningham

THERE'S a good chance that the use of diesel engines in your fuel delivery trucks, your installation rigs and your service trucks could cut the cost of your present truck operation.

Costs are an important point today, and anytime you can cut your costs, it's as good as a rate increase. So let's investigate this area of trucking costs—as related to diesels. What's the present picture of the diesel engine? Do they cost less to run? Are they better mechanically? Are they easier to maintain? Are they noisy and smoky? Are fueloil operators using them today? And finally what's the purchase price picture?

First: What is a diesel? Diesel engines have been around a long time. Originally they were huge affairs in ships and trains and stationary generating plants. They are still used this way today. The diesel engine is known as an efficient, mechanically good and long lasting power plant.

Today's new automotive diesel engine is a highly developed power plant capable of doing almost anything a gas engine can—but the diesel is still a larger and more expensive engine.

A diesel engine is similar to a gas plant in most respects. It has pistons, crankshaft, connecting rods, combustion chamber. It uses lubricating oil and water cooling. But a diesel does not have a carburetor or spark plugs or an ignition system.

Fuel is metered into the pistons of a diesel through injectors. The diesel engine relies on the high heat created by the compression of air in the cylinder to ignite the fuel as it is sprayed or injected in. The system is efficient and reliable.

What are the major advantages of a diesel engine over a gas power plant?

1. Fuel economy. There is little doubt that the average diesel engine uses less fuel than the same horsepower producing gas engine. This is for several reasons. On a long intercity route, or on long spaced delivery situations, your diesel powered oil tanker will burn about 50% less fuel than a comparable gas rig. This is generally due to the different method of metering fuel into the pistons.

Put a diesel engine on a city delivery fuel rig and you will get double or more the mileage over the same route as a similar truck with a gas engine. Why? Cummins, one of the top diesel engine makers in this country, explains it this way:

"In the gasoline engine, the carburetor throttles the air when the load drops and creates a partial vacuum in the intake manifold. At part load and idling, the gasoline engine is working hard just to pull the piston downward against this vacuum. The diesel, at all loads from idling to full power, draws the air into the cylinders from the atmosphere without any restriction. Thus, the power for pumping is approximately the same at light loads as at full power."

The gasoline engine is notoriously wasteful when idling. For this reason many route drivers on milk and bread runs are required to shut off their engines at each stop. A fueloil truck cannot do this because the engine must be used to run the pump.

Most standard gas engines will idle for about 50 minutes on a gallon of gas. On the other hand, the same sized diesel engine would idle for three and a half to four hours on a gallon of diesel fuel. This is why many milk, bread and laundry route trucks are experimenting with diesel engine trucks.

How much of the time do your trucks idle during a working day? If your delivery tankers make 50 stops a day, they are averaging 20% of the time in idling and pumping. On this type of a route you would use from one and one half to two times as much gas, as you would diesel fuel on a diesel truck.

Here's an actual example. The Fiveboro Fuel Corporation in Jackson Heights, New York has repowered a Model EHU Mack with a JN-130 Cummins engine. This diesel reduced fuel consumption from 16 gallons of gasoline daily to five gallons of diesel fuel in residential fuel delivery service. The truck has an 1850 gallon fueloil tank aboard.

Fiveboro officials said the difference was the diesel truck in the pumping, idling and start and stop heavy city traffic. Here the fuel costs were slashed to one-third of what they had been. In many states higher fuel savings result because diesel fuel is often from 1 to 4 cents lower in price than gasoline.

2. The second major advantage of the diesel engine is availability and long life. In survey after survey, the biggest cause of truck breakdowns is listed as electrical. The majority of these electrical problems were in the electric ignition system.

A diesel has no electric ignition system—so there cannot be any breakdown troubles due to that feature.

Diesels also have fewer overheating problems than gas engines. This is because the nature of the diesel which

generates a reduced amount of heat during idling. This is when the engine circulation is the lowest, and the reduced heat generated balances out with the lower engine coolant ability to remove heat.

In gas engines however, the coolant flow slows down during idling, but the heat produced by the engine does not lessen to the same degree. This means an idling gas engine is building up heat—often more than the slow moving coolant can handle.

3. Maintenance on diesels is a definite advantage. In the trucking fraternity the diesel is known as the engine that costs more to buy, but that last longer and is easier to maintain. A diesel is heavier, more rugged, better made and built-to-last.

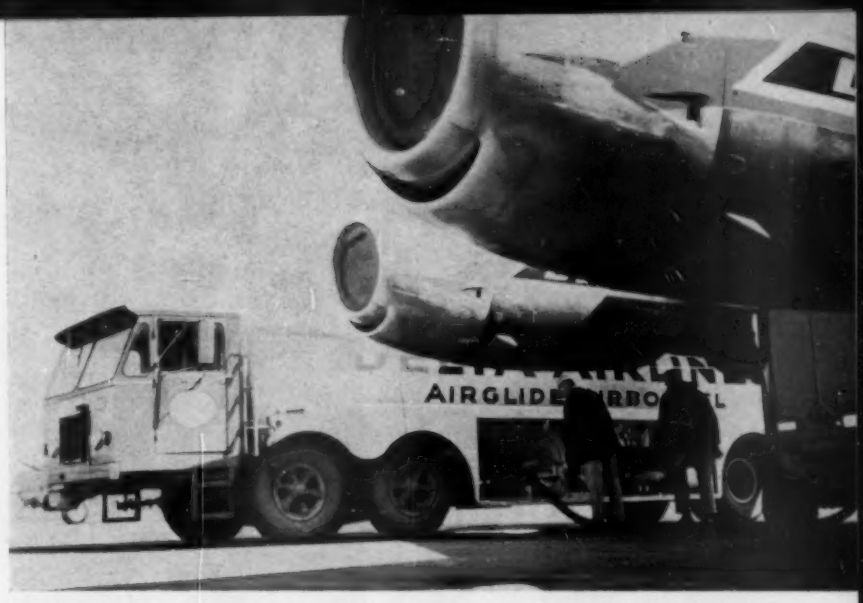
Maintenance-wise you have no carburetion or ignition system to worry about, and no periodic tuneups. On the realistic side, the fuel injection system is more complicated and critical than the gas carburetion, but once it is set it is easier to keep in good operation than the gas counterpart.

A Scottish firm made extensive tests before switching to diesels. They used Bedford vans with Perkins Four-99 engines and put them on double and sometimes round-the-clock shifts. They now have gone over 100,000 miles and there has been no major work or special attention of any kind given the engines. Many gas powered delivery trucks would be working on a second engine by this time.

Diesel engines are built to last. With normal service they can produce up to 350,000 miles of power. To help back up this claim, most diesel makers give you a 100,000 mile warranty.

Does the diesel fit into a fueloil operation? Generally there are three types of trucks used in our oilheating and airconditioning business. The oil delivery truck with cab, chassis and oil tank; the delivery truck for installations, and the strictly service truck. These last two are generally pickups and panels or the new little vans by Ford, Chevy, VW and several more.

If you could get the small vans or pickups in this country ready-equipped with a diesel engine, they would work fine and be economical for your oilheating and airconditioning business. But this is not the rule. Some of the small foreign built vans can be found with diesel 4-cylinder engines, but they are the exceptions and probably special order items.



This diesel tanker feeds the giant jets and burns the same fuel, JP-1A, used by the big DC-8. The truck is a KW-Dart 75RFT with two C-160 Cummins diesel engines which power the truck and the high volume fuel delivery pumps.

It would not be generally economical to buy a new pickup and to repower it with a small diesel engine.

If you can find a small van or pickup with a diesel four cylinder engine in it, give it a try. I think you'll be pleasantly surprised at the economy.

The main area of diesel application is in the tanker-oil delivery trucks. You usually have the most of these, and they cost you the most to buy, to service and to operate.

Trucks of this type can be ordered with the power plant you want already in them—and there are five or six major American makers of diesel engines that would be more than happy to put a diesel engine in your cab.

Here is where you will find the greatest savings in a diesel. All of the traditional savings factors will be working for you. The better fuel consumption, the lower fuel cost, the easier servicing on the engine, the longer engine life, and greater availability of the rig due to less down time.

No drawbacks to Diesels? There are three basic complaints that various users find about diesels. Some say the smoke problem is too much to cope with. The smoke is there, a diesel engine has more smoke, and a stronger and more objectionable odor than does a gas engine, but when the engine is running right, and is driven correctly, there is no real smoke or smell problem. This drawback is not as important as many people think.

Another minor objection is vibration. True, there is more vibration than you find in a gas engine, but again it is more a matter of something to get used to for the driver, than any serious problem for the owner or service men. With more vibration you will have more bolts work loose, and a few more minor inconveniences of this sort. But again there is not a serious drawback to diesels on the vibration. For example the vibration isn't enough to hurt the milk bottles in a dairy multi-stop delivery truck—so it can't be very severe.

The final drawback to the diesel engine is the price. A diesel engine is better made than a gas engine, and it costs you more to buy. Prices range all over the map, and it's always difficult to tie down prices, however here is a quotation given by International Harvester Company recently on its 160 model truck. This truck costs only $1,097 more to have a diesel engine installed, than it does a gas engine. The diesel engine is an IH 301 diesel, a 110 hp engine that pulls a rig with an

(Please turn to page 110)

LuxRay burner-mounted primary Control

General Controls couples light-sensitive flame Detector to unusual Circuitry

Bill Lord, General Controls Account executive, shows to John Schulz, technical editor, Fueloil & Oil Heat, the company's LuxRay burner-mounted primary control.

SERVICEMEN and other technicians concerned with oilburner safety controls are studying with great interest the new LuxRay safety combustion relay recently announced by the Oil Heat Controls Division of General Controls.

Of the many features listed for the LuxRay primary control system, one stands out as unique and fascinating. This is the use of direct current or DC for the circuit which includes the system's light-sensitive flame detector, and the relay solenoid-coil that's worked by this flame detector. Some reasons for the use of direct current will come later.

LuxRay safety combustion relay, as General Controls men specifically have named it, is for oilburners firing up to and including 7.0 gph.

Included in the LuxRay line are models for constant ignition, and for intermittent ignition timed to be on for either 60 or 90 seconds, depending on the control model. Optional features include either 45 or 90 second timing for the safety switch lockout, or the trial-for-ignition period . . . and either recycling or non-recycling performance. Intermittent-ignition and recycling models feature a purge period.

The line-up of LuxRay models is unusual in including, all told, eight primary controls with low-voltage thermostat circuits, so that oilburner manufacturers and dealers can have the features and timed intervals they desire.

In addition, a new model presently will be available especially for hot-water boilers; it will not have a low-voltage thermostat circuit, and will provide constant ignition.

The direct-current circuit of the LuxRay oilburner control, declare its admirers, makes it drastically different from any other equipment of similar function on the market.

These admirers speak of a super-sensitive DC detector circuit. If you are good at wiring, you can easily find this in the accompanying wiring diagram of LuxRay R96D for constant ignition.

This detector circuit includes a selenium rectifier marked S. R., a condenser, and the solenoid coil (marked 2R) of a highly sensitive DC relay. Also in the circuit are terminals D-D to which the light-sensitive flame detector is connected . . . and most but not all of the secondary winding of the low-voltage transformer.

The light-sensitive flame detector, which is a cadmium sulphide cell, conducts DC electricity across terminals D-D . . . only when this detector "sees" light. When the flame detector is in total darkness, its electrical resistance is astronomically high, thus the cell conducts no electricity whatsoever, and the result is as though terminals D-D were not connected together electrically.

When the flame detector "sees" light from the oil flame, in effect it puts a jumper across terminals D-D, and puts DC current through relay solenoid-coil 2R. Energized, relay 2R snaps in, opening contacts 2R1 (which are normally closed).

The oilburner will start when the thermostat circuit T-T is closed . . . if safety switch SS is closed . . . and if contacts 2R1 are closed. These contacts 2R1 are closed only when the flame detector "sees" no light from the flame or from any other light source, hence with the flame detector "seeing" light, the burner cannot start.

Great safety comes of this. For a burner start-up, the flame detector must "see" no light. After a burner start-up, the flame detector must "see" light within the time of the trial-for-ignition period (either 45 or 90 seconds, depending on the model), or the burner will stop "on safety."

The General Controls LuxRay safety combustion relay thus has a highly important self-checking feature. Its flame detector must "see" no light from the flame (or from elsewhere) for the burner to start; after the burner starts, the flame detector must "see" light from the flame within the time of the trial-for-ignition period, or the burner will stop "on safety." If current flows through the heater in the wiring diagram for either 45 or 90 seconds (depending on the control model), safety switch SS snaps open. Once open, this switch remains open until someone snaps it closed manually. With switch SS open, the burner is "off on safety."

When the burner starts because the thermostat circuit closes, flow of electricity through solenoid coil 1R snaps in relay 1R, and closes two sets of contacts. One set, marked 1R1, is line voltage, and gives current to both the burner motor and the ignition transformer. The other set that closes for coil 1R is low voltage, is marked 1R2.

Bill Lord, account executive of General Controls, has this to say about the unusual use of direct current.

"The full advantage of using DC can be realized best by men who understand that we are dealing with good, functional operation when the flow of current through the light-sensitive cell may be as low as 2.5 milliamps. A milliamp is one thousandth of one ampere.

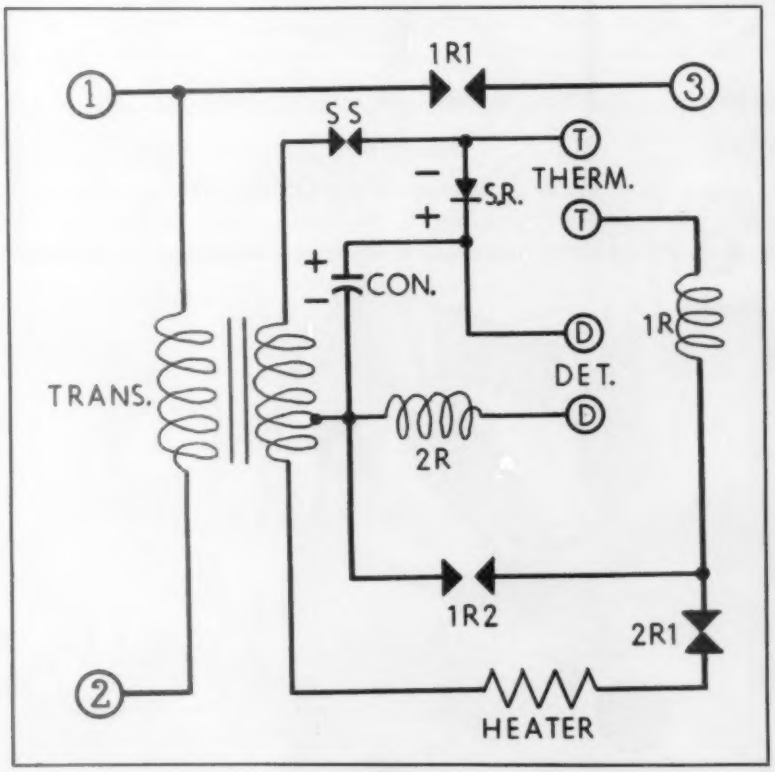
"Therefore it is our opinion, formed after study and consideration, that the desired positive-type electrical functioning can be gained only through the use of a DC relay; this is mandatory for the quality performance which we contend our equipment provides.

"As is well known, all alternating-current coils, including relay solenoid coils, have definite power losses, which normally are compensated for by the use of shading coils and other means.

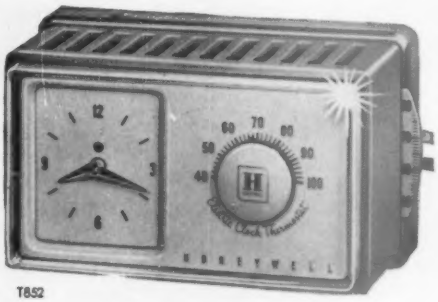
"We find that in working with milliamp circuitry, it is necessary to employ the full power obtainable only in a DC circuit. That's basically why we employ a selenium rectifier and condenser in our flame-detector relay circuit."

Engineers at General Controls Company, asked to list briefly the reasons for their enthusiasm, make these points about their new oilburner primary control system:

1. Factory wiring of the burner-mounted primary control eliminates on-the-job wiring work and possible errors.
2. Complete burner-control package is factory checked.
3. Elimination of variables involved in locating stack controls . . . such as proximity to draft regulators, stack temperatures either too low or excessive, short smokepipes, etc.
4. Elimination of the considerable service attention needed for the heat-sensitive elements of stack controls . . . caused by soot deposits on these elements . . . and by the elements becoming tired, feeble, and slow-acting by action of heat on them, and as they age.
5. Field accessibility with respect to the LuxRay sensing element.
6. Fail-safe operation.
7. Reduction of false shutdowns.
8. No concern with putting the primary control "in step."
9. Including the line-voltage model that has no room-thermostat circuit, LuxRay controls come in nine different models which fit all manufacturers' and dealers' requirements.



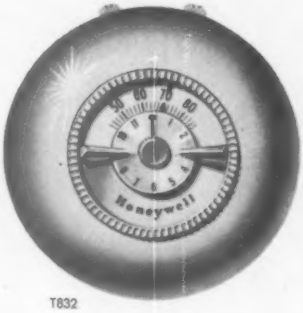
A Luxray flame detector is here being removed from a Gentleman Janitor Coronet boiler-burner unit as easily as removing a battery from a flashlight.



T852

On every service call . . .

SELL-UP to the Honeywell Electric Clock Thermostat



T832

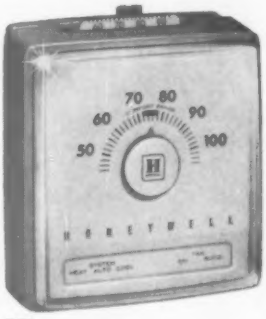
On every modernization job . . .

SELL-UP to the Honeywell Day-Nite Round Thermostat

W474

For all quality new construction . . .

SELL-UP to the Honeywell Weather Station



T870

On every air conditioning job . . .

SELL-UP to the Honeywell Deluxe Heating-Cooling Thermostat

MAKE EVERY OPPORTUNITY PAY

Sell UP!

Honeywell

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Technical Highlights of the Hev-E-Oil Burner

Gun Burner for No. 5 Oil has highly unusual Features

by Jean L. Dupuis

ENGINEERS and sales-minded executives of Industrial Combustion, Inc., Milwaukee, Wis., are entirely correct in declaring their Hev-E-Oil burner is of unusual design and construction. Truly it was designed from scratch to be able to handle No. 5 oil, including fueloil of this grade so heavy and viscous as to need preheating to permit pumping it, sending it through pipe lines readily, and atomizing it.

The Hev-E-Oil burner has been made in its present, basic form since 1935. From then until now, it has employed basically the same engineering principles, though in detail it has been improved and modernized many ways.

Here's one thing highly unusual for a commercial-industrial gun-type oilburner. The Hev-E-Oil burner is made up of many, special parts indeed, as the accompanying illustrations show clearly. Yet this burner does not have in it an integral oil pump, which can draw oil to the burner from an oil storage tank that's remote or below the burner.

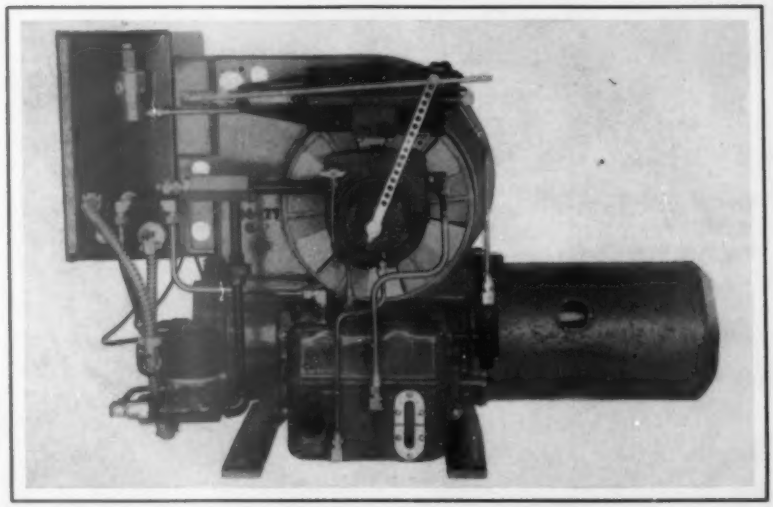
Although the Hev-E-Oil burner is made up of many parts, each performing a special function in a truly commercial-industrial fashion, the burner has only one motor-driven part that handles fueloil. That is its variable-displacement fueloil-metering pump, which sends oil to the atomizing nozzle and thus establishes the gph firing rate.

About this fueloil-metering pump, the Hev-E-Oil instruction book says: "This pump is used only for metering the quantity of oil required by the burner for its low-high fire settings, and should not be mistaken for a suction pump."

Usually, however, a Hev-E-Oil installation includes a separate, auxiliary pump-set, located as close to the oil storage tank as is feasible, which pushes fueloil to the oilburner, and puts a suitable pressure on the burner's fueloil-inlet strainer (part 70 in the accompanying, large drawing).

"Why doesn't the manufacturer simply build a usual suction pump or oil-transfer pump into this burner, so that a belt-drive or similar auxiliary pump-set is not needed on the job?" is the usual question asked by men familiar with conventional oilburners.

The enthusiasts for the Hev-E-Oil burner reply to such questions by saying that they find that only their way of doing these things give oilburner



performance of maximum dependability and maximum quality. They say they don't want to cheapen their installations, and at the same time detract from their quality, by using oil-transfer pumps which are integral parts of their oilburners.

Evidence of additional emphasis on quality is shown by what the Hev-E-Oil burner men have to say about the sliding-vane air compressor they use to provide compressed air for the air-oil atomizing nozzle, usually at 10 to 20 pounds pressure.

Experience has shown, say these men, that such an air compressor is no better than its lubricating system. Therefore an automatic pressure-lubrication system is provided for this compressor. An air-oil tank serves as a reservoir for the lubricating oil. The air pressure developed by the compressor forces lube oil, stored in the bottom of the tank, upwards through an oil tube and into the compressor—at a low and proper rate.

Another feature of the Hev-E-Oil burner, cited by its enthusiasts as indicative of completeness of design and high quality of the equipment and its performance, is low-fire starting accomplished by an integral, pneumatic system powered by the air pressure the compressor develops.

A pneumatic piston-cylinder device, formidable looking and really powerful, is linked mechanically to both the gph-adjustment lever of the fueloil-metering pump, and the adjustable air damper which admits air to the burner's blower wheel.

When the piston is not affected by air pressure, because the burner and its air compressor are idle, it is in its low-fire position; a large, compression spring keeps it there. The gph-adjustment lever is in its low-fire position, and so is the air damper of the blower wheel.

Using modern combustion-safeguard controls, things are arranged so that during a burner start-up the oil flame burns at its initial, low-gph rate—until a flame detector "sees" this low flame burning properly, and reports this to the control system. Only after this does the piston-cylinder device increase the rates of both the fueloil and the combustion air, to boost the oil flame to its full size.

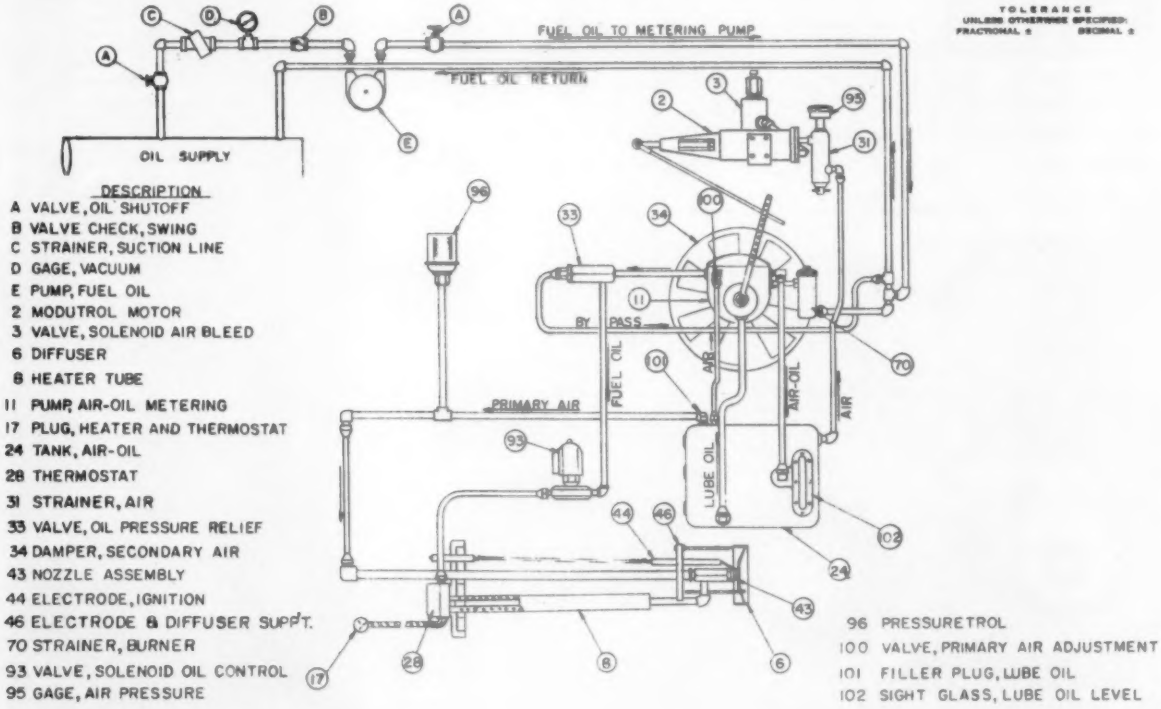
The development of compressed-air pressure by the burner's compressor, and the effect of this pressure on the piston-cylinder device, are the cause of the piston's moving from its low-fire position to its high-fire position.

The burner manufacturer recommends that the shift from the small flame to the large flame should be made very slowly, and provides a speed adjustment valve which permits a serviceman to make the piston do its flame-size increasing at any desired rate.

This integral, automatic, flame-size control has a lot more to it, which a dealer can take advantage of, if he wants to be fancy and intensive.

For one thing, standard equipment on the Hev-E-Oil burner includes an air-bleed solenoid valve, normally open type, mounted on the piston-cylinder device. Simply wiring a simple limit control to this (a limit control affected by boiler pressure or temperature, for example) will provide high-low firing during normal, continued operation of the burner—in addition to the low-fire start-up feature.

Instead, firing can be fully modulated using an electric control motor of the modulating type—or, for a dealer who knows about pneumatic control devices, using just one pneumatic limit control which is exceedingly simple



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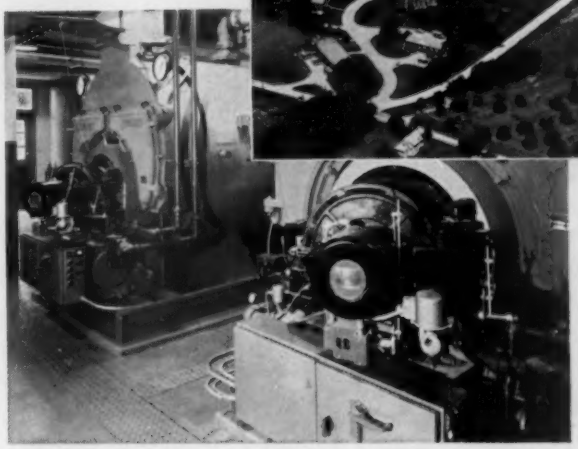

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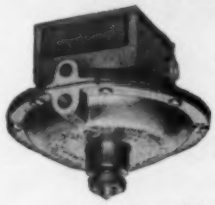

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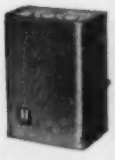

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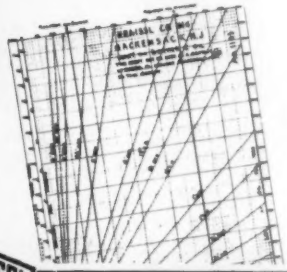

KRAISSL CO. Inc

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and inexpensive, and which is connected to the piston-cylinder device just by one, little, copper tube.

The manufacturer has made simple the matter of setting up one of these burners to use light fueloil that needs no electric preheating within the burner, or to use heavier fueloil that needs preheating. The burner has a two-position electrical switch especially for this.

Set in its "Light Oil" position, this switch disconnects an electric oil preheater that's in the gun-tube assembly of the burner . . . and also shunts a preheater start-up thermostat, the normal function of which is not to permit the burner to start until the heavy oil in its gun-tube assembly is properly preheated to about 110°F.

Set in its "Heavy Oil" position, this switch permits operation of the burner's gun-tube oil preheater . . . and also arranges things so that the burner motor can't start until after the preheater has its fueloil temperature up to about 110°F.

Until a few years ago, Hev-E-Oil burners most frequently encountered on actual installations were the direct-drive type, and included these models: No. 2 for 1 to 5 gph, No. 3 for 1 to 11 gph, and No. 4 for 3 to 17.5 gph. Newer is Model No. 4½ for 5 to 25 gph, and similar to the earlier models except that it has a belt-drive arrangement. Large models with integral combustion cones came next: No. 5 for 6 to 30 gph, No. 6 for 7 to 45 gph, No. 7 for 8 to 60 gph, No. 8 for 12 to 100 gph, and No. 9 for 15 to 150 gph.

Current literature on these burners indicates all are suitable for fueloils No. 4, No. 5, and PS 300 on the Pacific coast . . . and the higher capacity models are suitable in addition for No. 6 oil.

Just to be able to give some ideas on this to servicemen who may be wondering about it, we put questions about typical Hev-E-Oil service procedures to Henry M. Wymbs, the able service director of Hev-E-Oil Burner Distributors, Inc., Bronx, N. Y.

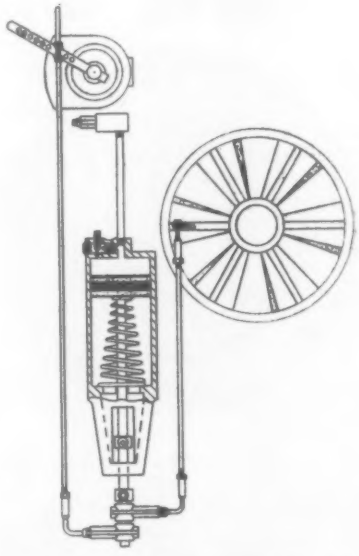
Henry Wymbs replied that, first, there's the simple matter of keeping the lubricating oil up to the proper level in the air-oil tank. Use automobile engine oil of viscosity SAE 10 . . . don't use more viscous lube oil. Once a year, drain the tank, flush it and its bronze wool pad (removed from the tank) with kerosene, and re-fill the tank. A sight glass shows the level of the lube oil. Never put in more oil than is needed to cover half of this glass. Add oil before the level of oil in the sight glass becomes lower than the two side-by-side screws near the bottom of the sight glass.

Other service hints from Wymbs:

1. You adjust the amount of air pressure the compressor puts on the air-oil nozzle. Generally 10 to 20 lbs. air pressure is suitable. But in every instance adjust for the air pressure that produces the best fire.

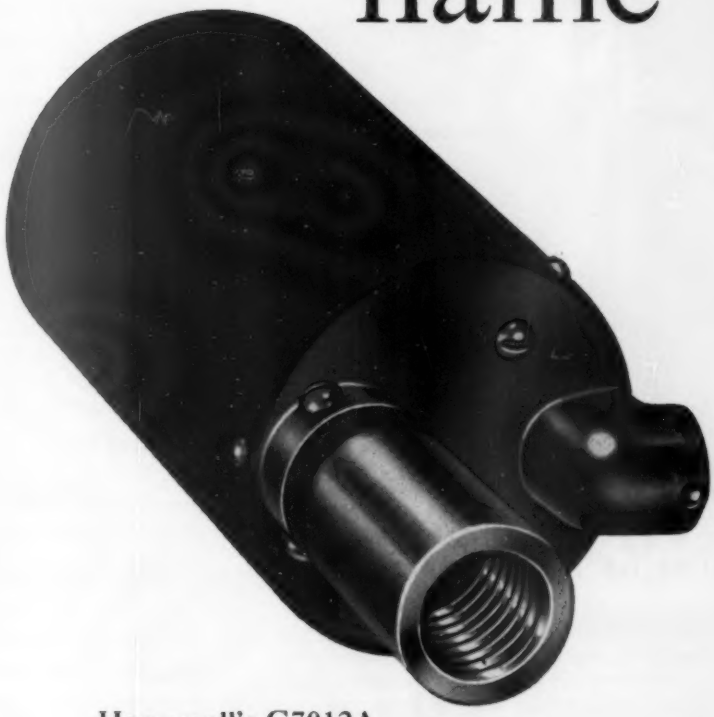
2. To service these burners, a man must understand the four components that make the burner function, namely: a) blower air, which supports combustion, b) compressor air, which atomizes the oil, c) fueloil . . . know how it gets to the burner, through the burner, and to the nozzle, d) lubrication oil . . . its purpose and importance, and how it circulates.

3. If the air-intake holes in the cap



Modulating motor with air solenoid.

Senses only the flame



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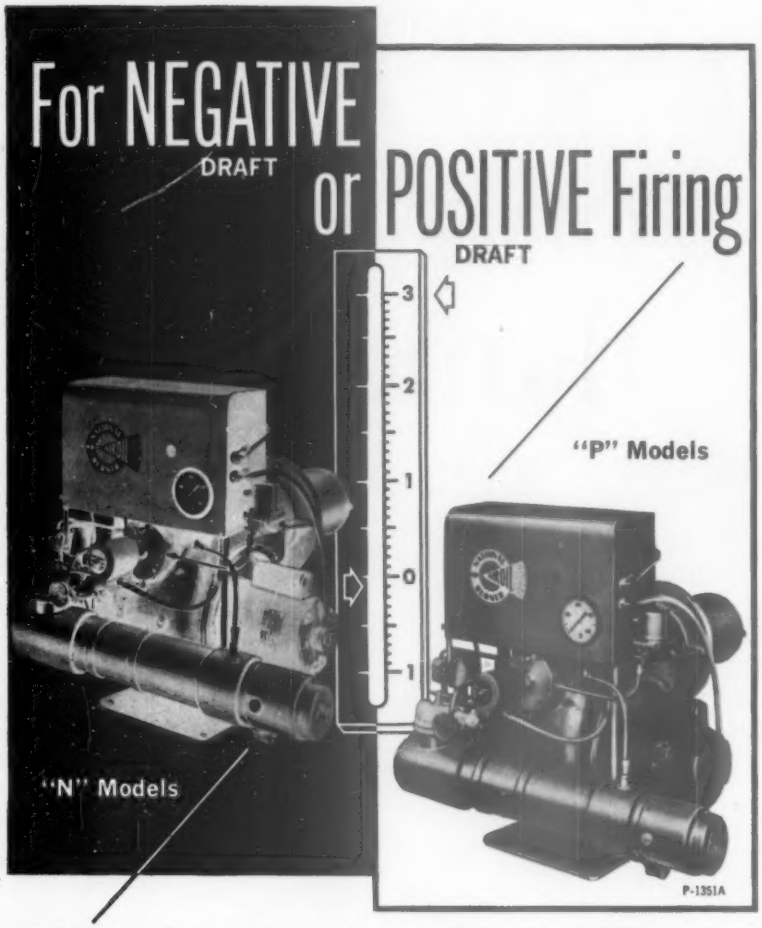

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of the air compressor are plugged, the compressor cannot get enough air and will not work. Keep those air-intake holes clean!

4. An unusually high reading on the air-pressure gage probably indicates a nozzle that's plugged or very dirty.

5. Although the fueloil-metering pump is a positive-displacement pump, it cannot develop a vacuum . . . it cannot draw oil from an oil storage tank. Some means must be used to put a head pressure of oil on the inlet port of this metering pump—a head pressure of 3 to 10 pounds is suitable.

6. Using the burner's electric oil preheater for oil that needs no heating can cause dripping of oil from the burner nozzle while the burner is idle. Don't preheat light fueloil that needs no preheating!

7. Small burners have a 40-pound pressure-relief valve, which is open when the burner motor is running but the burner is not firing because its nozzle-line solenoid shut-off valve is closed. You should know this: If that 40-pound pressure-relief valve sticks or jams in its open position, all the oil from the metering pump will be bypassed by the relief valve, and no oil will flow to the atomizing nozzle.

8. Minimum over-fire draft is .04″.

9. Know the proper setting for the air diffuser at the end of the gun tube. The inside ring of the air diffuser must be set ⅛″ forward of the face of the nozzle.

10. Spark gap of the ignition electrodes must be between ⅛″ and 3/16″.

11. Know this: A burner will not operate if the small spring, that goes behind the nozzle swirl piece, is missing!

12. Undersize suction-line piping causes an auxiliary pump-set, used with these burners, to develop high vacuums which definitely cut short the life of the pump-set.

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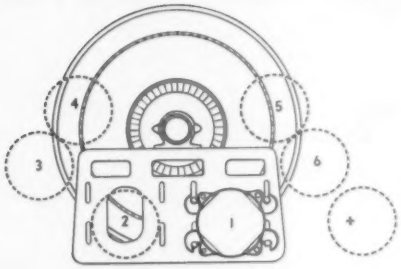

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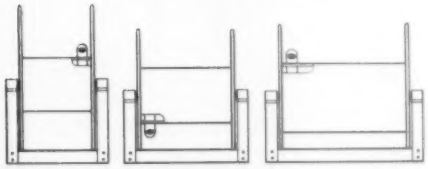

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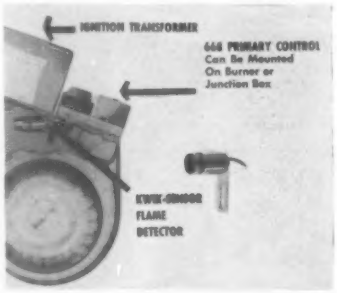
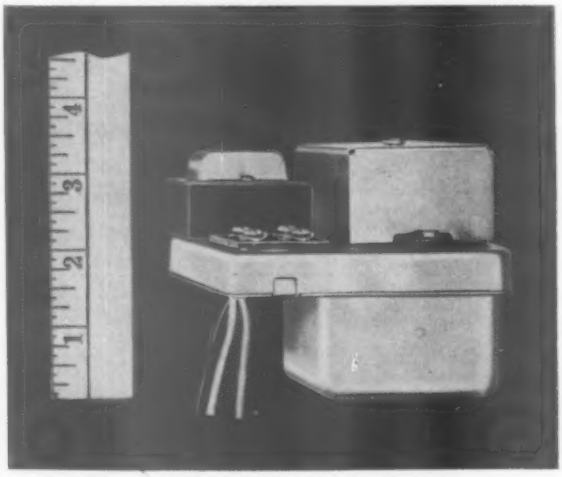


The new 668 may be mounted in or on the burner, in the furnace or boiler vestibule, or in any convenient location as long as the flame detector is positioned where it can respond to the visible radiant rays of the oil flame. The control reacts only to the oil flame's visible radiant rays. It is not an electronic control, but employs standard primary components.

Made by: White-Rodgers Co., 9797 Reavis Rd., St. Louis 23, Mo.



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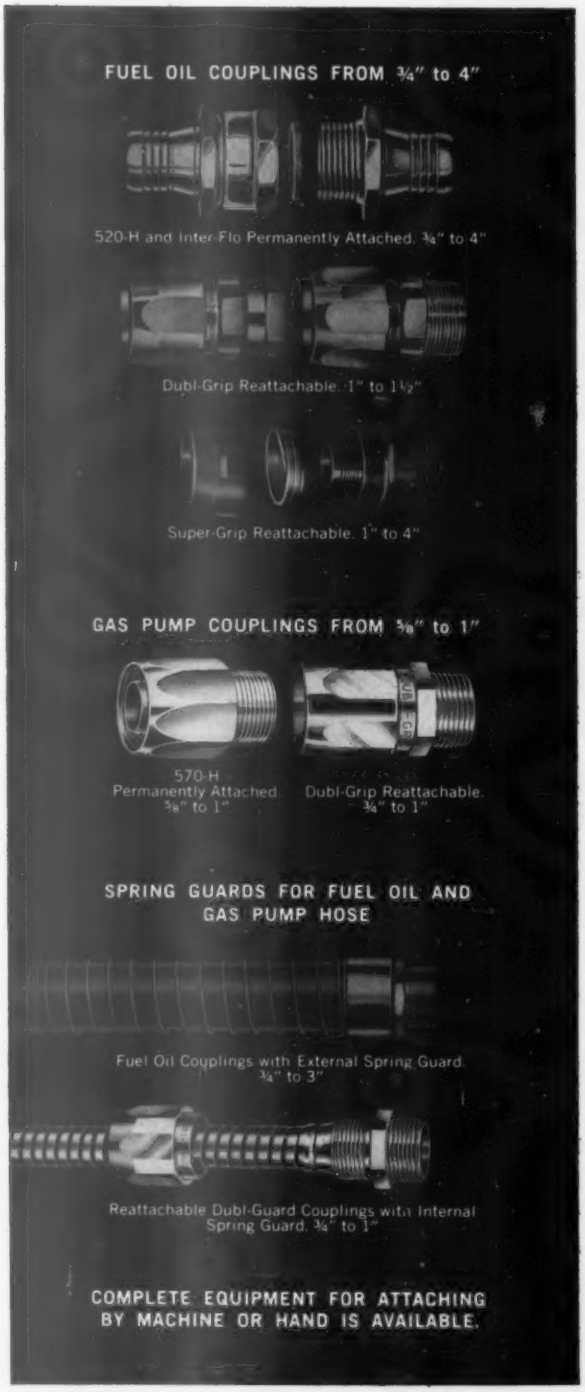
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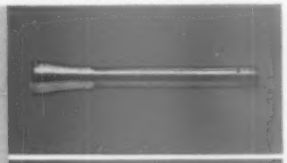


#52 EXTRA HEAVY DUTY ASBESTOS PACKED FLEXIBLE METAL HOSE.
Standard length 6'. Available in 12', 24' or special lengths on request. Equipped with special connector to connect to #51 Tube Puncher.

#54 BOILER TUBE SCRAPER.
Scrapes and cleans soot and scale from inside walls of boiler tubes. Available in 2½", 3", 3½" and 4" sizes. All sizes attach to #51 tube puncher.

Pullman

Pullman Vacuum Cleaner Corp.
25 Buick St., Boston 15, Mass.

Please send me your catalog sheet on Pullman Furnace Boiler Cleaning Tools.

*Name*_____

*Street*_____

*City*_____ *Zone*____ *State*_____

FIRST IN SALES THROUGHOUT THE WORLD.

Lockheed has computing Register for retail fueloil delivery Trucks

LOCKHEED has announced the first automatic computing register for fueloil delivery trucks. The Lockheed Register automatically prints a customer invoice at the point of delivery by itemizing the number of gallons delivered, price per gallon, sales tax and the total amount of the transaction. Computing and printing is accomplished in one second by a turn of the Register's handle.

A major innovation is the Register's ability to compute tenths of a gallon. Register also incorporates a preset counter and a totalizer displays accumulated gallons delivered, total sales tax and the total value of all deliveries.

The new unit weighs less than 15 lbs. and measures 10" high by 9" square, is interchangeable with all previous registers or can be adapted to existing fueloil meters used for consumer deliveries. Changeover can be accomplished with a wrench and screwdriver in 15 mins.

Unit price can be changed by lifting the top cover and moving two levers; one for cents, the other for tenths. This operation is performed without removing the register from the truck. Cover can be sealed to prevent change of the unit price; a locking device perforates and holds the ticket at the start of delivery. The ticket cannot be removed until the Register handle has been turned after the delivery.

The tax computer is set at the factory for a tax rate of 2, 3, 4, or 5%; a change from one rate to another requires a bench modification, including a few parts and about a half hour's work. A half-cent discount may be computed in the price by using a ticket with a notch in the left-hand edge. The notch causes a lever to drop and engage the discount gear. Tax may be eliminated from the computation by a notch in the right-hand ticket edge. Unit meets all Federal weights and measures requirement for tamper proofing.

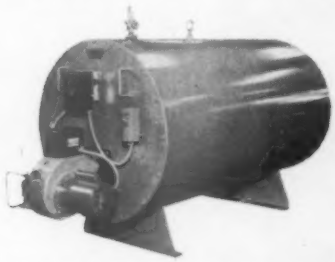
Since Mid-February, Lockheed Registers have been tested in daily use by Meenan Oil Co. at Levittown, Pa. and since April on Long Island, N. Y. Reported savings are at least one minute per delivery or 25 minutes per day per truck, with daily deliveries totalling 2,500 gals. more per day per truck.

Lockheed predicts optimum savings of $1,125 annually if a dealer uses the Registers on all his trucks, with savings of $400 a year possible through elimination of driver computations alone.

Made by: Lockheed Electronics Co., Plainfield, N. J.

Johnson Boiler-burners designed for hot water Supply, Heating

JOHNSON "Heat Servant" boiler-burner units have been designed for hot water supply, or hot water heating of buildings. Two vertical models range in size from 80 to 1000 MBH, and two horizontal models (Scotch Boiler type) range from 100 to 2000 MBH.



All units are factory assembled, wired and tested. They are powered by Johnson's Bankheat burners, which can be fired on oil, gas, or combination oil-gas.

Made by: S. T. Johnson Co., Oakland, Calif., and Bridgeport, Pa.

General Filters introduces "High Flow" models for heavy Fueloils

GENERAL FILTERS, Inc., has introduced two units designed for fueloils 4, 5 and 6, for plants with firing rates up to 200 gph. Both models are listed by Underwriters' Laboratories.

Low pressure model 3200-L2 is for pressures up to 100 psi, while high pressure model 3200-L3 is for pressures up to 450 psi. One nut is removed for cleaning of element.

A monel mesh screen which fits either housing, is pleated to provide a total screen area of over 120 inches. Screen is made in mesh sizes of 30, 60 and 100 mesh.

Filters are also applicable for industrial installations where mesh screen filtering meets requirements. With a 20 gpm flow of oil (255 SSU viscosity), the pressure drop is 1.25 psi.

Made by: General Filters, Inc., 43800 Grand River Ave., Novi, Michigan.

GUARANTEED PERFORMANCE

PULLMAN

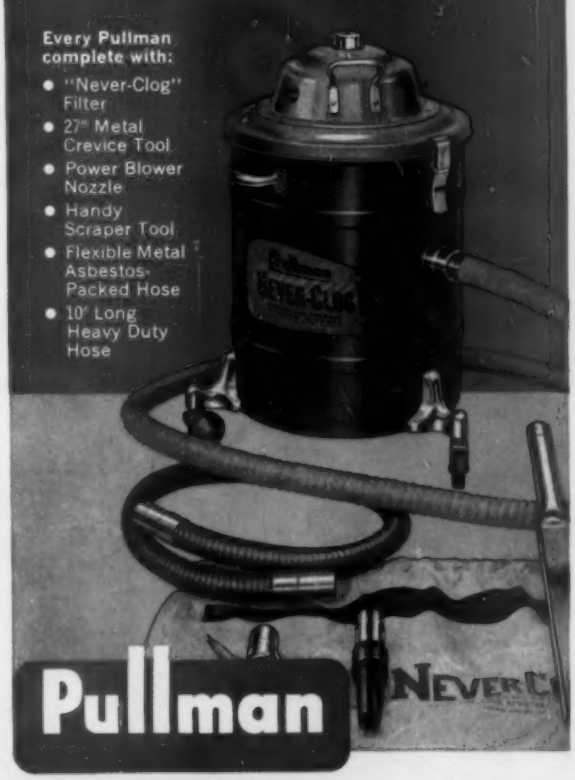
with exclusive

"NEVER-CLOG" FILTER

Designed for furnace cleaning! "Never-Clog" filter guarantees constant maximum suction. Sized right . . . fits car trunk, carries easily in one hand. Versatile tool kit included. Use Pullman . . . the vac backed by a generation of furnace cleaning experience.

Every Pullman complete with:

- "Never-Clog" Filter
- 27" Metal Crevice Tool
- Power Blower Nozzle
- Handy Scraper Tool
- Flexible Metal Asbestos-Packed Hose
- 10' Long Heavy Duty Hose



PULLMAN Vacuum Cleaner Corp.
25 Buick St., Boston 15, Mass.

Send further Information to:

Name.....

Street.....

City.....State.....

FIRST IN SALES THROUGHOUT THE WORLD.

After a day on the bay ... 3 happy anglers return. Louis and Ed McComas flank Gulf representative Ted Hough.

That great-grandfather clock in the background has been in the family almost as long as the family's been in Baltimore... a treasure among the McComas heirlooms.

Gulf Solar Heat Dealer combines fishing, fun and fuel oil!

Whoever said "Oil and water never mix" didn't have Mr. Louis McComas of Baltimore, Maryland in mind. His prosperous oil heat business allows him enough spare time to enjoy the nearby waters of Chesapeake Bay. A rod, reel, and enough time for good fishing . . . aah! That's the life.

The H. C. McComas Fuel Company, of which Louis is president, is well known in these parts. In fact, Louis' son Edward, shown fishing with his Dad, marks the 4th generation in a family business that's been bringing heating comfort to Baltimoreans since back in 1871.

A glorious past, a glowing future

Four years ago, after making a thorough analysis of the leading brands of heating oils, Louis McComas decided to affiliate with Gulf. He chose Gulf Solar Heat, produced by the exclusive Gulfining Process—hydrogen purified—which produces the cleanest, purest heating oil. Says Louis McComas, "Even with increased volume, our service calls have actually declined. I credit Gulf Solar Heat for that."

Love to go fishing? Go Gulf!

Less time spent on service problems means more time out in the boat. This summertime, your livin' can be easy; the fish can be jumpin' and your worries can be over with Gulf Solar Heat.

GULF Oil Corporation, Home Heating Headquarters
P.O. Box 2140, Houston, Texas

Yes, I'd like to know about your exclusive Planned Profit Program. Please send me a copy.

Name _____

Street & No. _____

City, State _____

Get Gulf's new booklet, The Planned Profit Program, **"Gulf Offers All 4."** *Use coupon at left.*

Oil HEAT

Gulf Oil Corporation

GULF SOLAR HEAT® heating oil

MARGARET-S

NOW!

AN INDUSTRIAL CLEANER WITH

REAL PORTABILITY

THE SOOTMASTER 601-8

New Elastic Top Reusable Filter Bag — Snaps on or off filter unit for quick easy cleaning.

- Lightweight and compact, the 601-8 can easily be carried from job to job and plant to plant.
- Convenient and powerful, the 601-8 combines heavy duty performance with real handling ease.
- More economical and efficient than larger more expensive cleaners.

MORE Important Features

- Maximum filtration for lasting suction.
- Powerful turbine fan suction unit.
- Controlled exhaust of clean filtered air does not disturb accumulated dust on basement walls and rafters.
- Finger-touch maneuverability — dollie has four swivel casters for stability. (the 601-8 can be ordered as an economy model without casters)
- Complete line of cleaning attachments are on the shelves of leading distributors.

MACHINE COMES COMPLETE WITH

- 10′ duck covered hose.
- 27″ furnace cleaning tool.
- handy hose carrying cage.
- 10 reusable paper filter bags.

Jobber and Distributor Inquiries invited.

Distributed in Canada by: Imperial Refractories & Equipment Ltd. Refractories Building Waterloo, Ontario

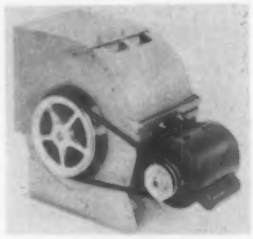
There is a Mastercraft Industrial Cleaner for every maintenance job. Write today for descriptive literature.

mastercraft INDUSTRIES INC.

109 Lanza Avenue · Garfield, New Jersey

Lau announces volume regulating Damper

A VOLUME REGULATING damper for adjusting combination residential heating and cooling systems has been announced by Lau Blower Co. The "Controllaire" is an integral part of a blower housing assembly. In operation, it is opened or closed to adjust air volume. It is designed to permit air redirected by the damper to flow out of the blower housing through rectangular openings. This is recirculated within the blower compartment. The blower motor remains at a constant speed, no matter what setting the damper is placed. This is true for both direct and belt drive motors.



Manually controlled, the "Controllaire" can be installed by furnace or airconditioning manufacturers with various types of knobs mounted on the exterior unit housing. Lau is incorporating the unit into 9 and 10 inch diameter direct drive blowers and 9, 10 and 12 inch diameter belt drive blowers.

Made by: Lau Blower Co., 2027 Home Ave., Dayton 7, Ohio.

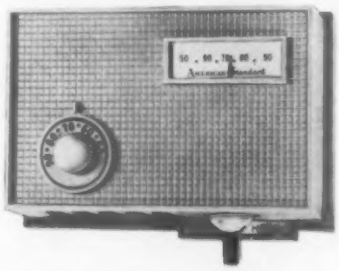
Eagan pump Set for heavy Oils performs multiple Functions

A PACKAGED fuel pump set by Eagan for industrial fueloils has the accessories required for fuel transfer, pressure boosting and fuel straining. Pump speeds are from 450 to 550 rpm, and the unit pumps from 45 gph to 1000 gph depending upon the motor selected.

Made by: Walter H. Eagan Co., Inc., 2336 Fairmount Ave., Philadelphia 30, Pa.

Line voltage Thermostats offered by American-Standard Controls

CB-400 SERIES thermostats for residential, commercial and industrial heating, cooling or year-round airconditioning have been announced by American-Standard Controls Division. Unit measures 3⅜″ x 4½″ x 2-1/6″.



Operating on either line or low voltage, it can be mounted without adapter plate on a standard 2″ x 3″ switchbox. A totally enclosed snap-action Tyniswitch is designed for clean make and break of contacts. System switch provides manual selection for heating, cooling, or "off." Thermostats are available in six standard models with built-in sub-base features.

Made by: American-Standard Controls Div., 5900 Trumball Ave., Detroit 8, Mich.

Your business depends on *calls* and service. That's why a radio-control system is so important. RCA 2-Way Radio can make money for you by assuring quick-as-a-button response to customers, by eliminating driver telephone expense, and by preventing back tracking and deadhead mileage. RCA and dependability have long been synonymous—ever since World War II, in fact, when rugged RCA communications equipment proved it could take it . . . under the toughest of operating conditions.

It took experience and daring to bring you today's new RCA 2-Way Radios. It meant discarding preconceived notions about circuits and redesigning with transistors in key places for reliability with economy. And it involved engineering a host of other advanced features to assure fine message intelligibility, and long component life, at moderate cost. Every business can now enjoy the money-making advantages of "LD" (Low battery Drain) equipment—today's greatest value in 2-way radio—with RCA service technicians available to keep equipment operating at its peak. Send coupon for information about RCA 2-Way Radio in your business.

RADIO CORPORATION OF AMERICA
Telecommunication Center, Dept. W-252
Meadow Lands, Pa.

☐ Please send me FREE literature on the new RCA Transistorized Mobile Radio.

☐ Have RCA Communications Specialist contact me and explain why this is today's best value in 2-way radio.

NAME _____ TITLE _____

COMPANY _____

TYPE OF BUSINESS _____

ADDRESS _____ PHONE _____

CITY _____ ZONE _____ STATE _____

RCA
The Most Trusted Name in Radio
RADIO CORPORATION OF AMERICA

fueloil & oilheat

There's more ways than one
to improve
DRAFT EFFICIENCY

. . . and the Best is with

TJERNLUND

AUTO-DRAFT
INDUCERS

• Vibration-free, quiet operation
• Heavy-duty, durable construction
• Simple installation
• Venturi-type operation
• Minimum space for mounting
• Nationally known motors
• Factory-tested performance
• Full range of sizes
• Light weight
• Doesn't rob furnace room of combustion air

The thousands of Tjernlund Auto-Draft inducers now giving trouble-free performance are proof of superiority. Write for literature and prices.

TJERNLUND
MANUFACTURING COMPANY
2132 Kasota Ave., St. Paul 8, Minn.

Williamson offers redesigned "Super Series" furnace Line

WILLIAMSON has redesigned their "Special Series" furnace line and renamed it "Super Series." Changes include ovaling of air passage tubes, extruding of heat exchanger sides where the tubes extend through it, strengthening embosses have been made wider, clip design holds baffles in place. Furnace comes in oil and gas models.

All models (Hi-Boy, Lo-Boy and Counterflow) have a 10-year factory guarantee, and are designed for the addition of summer airconditioning.

The company's line of Seal-Tite air distribution fittings can be used with this as well as the other Williamson Series.

Made by: Williamson Co., Cincinnati, Ohio.

Ex-trol expansion Tank available for commercial, industrial Use

THE EX-TROL pressurized diaphragm-type expansion tank has been made available in a range of sizes for commercial and industrial installations of hydronic heating. To distinguish them from the residential series, the larger series has been designated SX series.

Features include pressurized tank and diaphragm to separate permanent air cushion from system water.

Made by: American Tube & Controls, Inc., 100 Pulaski St., West Warwick, R. I.

Spencer Heater introduces residential Boiler-burners

A LINE of packaged steel residential oilfired boilers for hydronic systems has been announced by Spencer Heater. The "PV" Series of boiler-burners are available in six sizes from 74,000 to 149,000 Btu. Units are shipped assembled and factory wired. Choice of standard or extended jacket is offered, with a domestic hot water heating coil.

Unit features a special design, the waterleg surrounding the entire firebox and reaching the base on all sides, for efficiency. Controls and burner are at the front of the unit, and top outlet smokebox can be removed to expose fire tubes for cleaning.

Made by: Spencer Heater, Lycoming Division, AVCO Corp., Williamsport, Pa.

We don't say you'll retire in style after a year...

SUNOCO
HEATING OIL

But we do say that when you pick up a Sunoco Heating Oil distributorship . . .

- You'll have your own territory to develop and profit from.
- You'll get day-to-day support from Sun and a liberal co-op plan.
- You'll be handling a competitively priced, quality-blended product.
- You'll get oil when you need it.
- You'll have no trouble with an unknown brand name.

Sunoco's already a household word that means quality...to millions of people in Sun's marketing area, including your heating oil prospects.

Want to dig further into details on a Sunoco Heating Oil distributorship?

In the U.S. write to A. L. Anderson, Fuel Oil Department, Sun Oil Company, Philadelphia 3, Pa. In Canada: Write to C. B. Pitt, Sun Oil Company Limited, 85 Bloor St. E., Toronto.

PIONEERING PETROLEUM PROGRESS FOR 75 YEARS

If you sawed this DUNKIRK BOILER apart . . . *you would see why it sells and stays sold!*

Beginning with the strength and long life of cast iron, the lifetime metal, Dunkirk Engineering, Manufacturing, and Service have been proved and approved for over a quarter of a century.

Cut-away view of Lexington Series boiler shows honeycomb sections, raised wet base construction, location of tankless heater coil and insulated jacket.

Dunkirk Boilers and Radiators are made in a complete range of sizes, and types for hot water and steam systems. Write or phone for catalog.

DUNKIRK
RADIATOR CORPORATION
DUNKIRK, N. Y.

Member of the Institute of Boiler and Radiator Manufacturers and the American Gas Association

Aurora Pump offers packaged close-coupled end-suction centrifugal Units

AURORA Pump Division has introduced a packaged line of close-coupled end-suction centrifugal pumps. Units have been designed for use in O.E.M. products such as airconditioning units, cooling towers, milk coolers, hot water circulators.

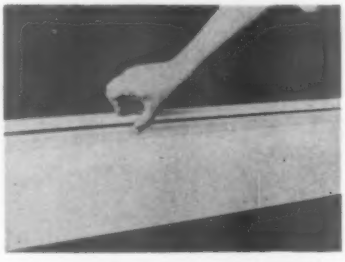
Unit may be disassembled without disturbing the suction or discharge piping. Vertical centerline discharge makes these pumps self-venting. Stainless steel, ¾" in diameter, is used through the seal assembly.

The package line is available in sizes from ¾" x 1" to 3" x 3". Capacities range up to 400 gpm and heads up to 150 feet.

Made by: Aurora Pump Division, New York Air Brake Co., Aurora, Illinois.

"Beautybase" hydronic Baseboard features integral Damper built-in

CONTINENTAL Mfg. Co. has introduced a model of its "Beauty-base" hydronic baseboard featuring as standard equipment an integral built-in damper. The damper is three dimensional in that it blends with the top moulding and front panel. It snaps into place on the hanger brackets.



Damper can be adjusted by fingertip control from fully open to fully closed. Model No. is LD-20U.

Made by: Continental Mfg. Co., P. O. Box 4048, Baltimore 22, Md.

Carrier introduces two, three-ton airconditioning Systems

CARRIER two and three-ton self contained airconditioning units powered by the Carrier Micromite compressor have been added to the line. Compressors are protected by Time Guard circuit, designed to prevent rapid cycling, which operates the condenser fan for 15 seconds before compressor is started. Compressors also have crankcase heaters for protection against cold starts and flooding in cold weather.

Both units use R-500 and have a screen to protect the outdoor coil. Three-ton model has valve connections in the refrigerant tubing.

Made by: Carrier Air Conditioning Co., Syracuse 1, N. Y.

BALANCES...PURGES... SIMPLIFIES... SAVES MONEY

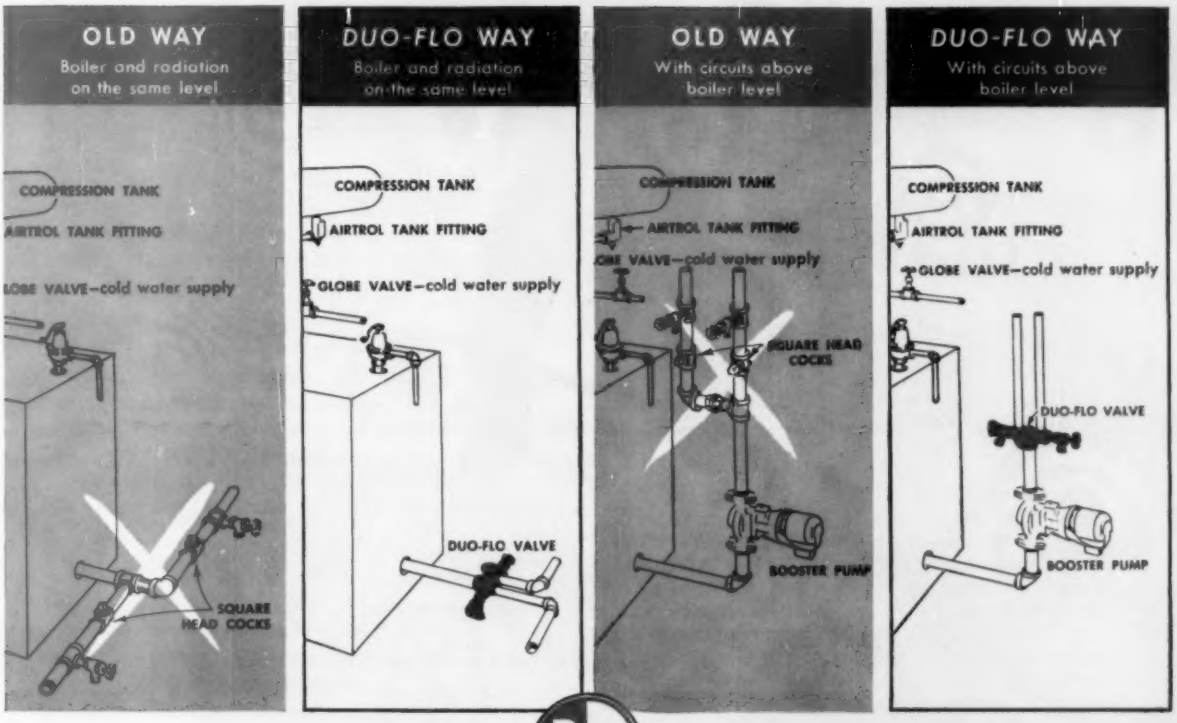
B&G® DUO-FLO VALVE

FOR TWO-CIRCUIT FORCED HOT WATER SYSTEMS

Balancing and purging a forced hot water system is now as simple as turning a valve handle and reading a dial! The B&G Duo-Flo Valve, with its five threaded connections simplifies piping connections to the boiler...eliminates three T's, five nipples and two gate valves or square head cocks...saves money because it saves time and material.

Positive purging is accomplished by turning the Duo-Flo handle to close one circuit and then opening the drain valve on that same circuit so that air pockets are forced out. Repeating this procedure on the other circuit completely purges the system. Just a few minutes of purging time takes the place of more lengthy, less positive hand venting.

Balancing the system is equally simple. Adjusting just *one* valve diverts more water into one circuit while lessening the flow through the other.



ASK YOUR WHOLESALER!

BELL & GOSSETT COMPANY
Dept. GR-7, Morton Grove, Illinois

Canadian Licensee: S.A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

fuel oil & oil heat

Pacific Coast Convention

(*Begins on page 62*)

HEAT, had a chart talk comparing Pacific Northwest results with the total U.S., showing the strong and weak points . . . this will be published.

Frank Breese, editor, *National Petroleum News,* New York . . . "The statistical outlook is grim but the answer to our future is not in the statistics . . . combined petroleum products represent $17 billion in sales with distillate furnace oil 2½ billion annually . . . in 1960 oil heats 32% of all dwelling units, gas 43% and electricity 3%; in 1970 oil will have 27%, gas will have 51% and electricity 5%; by 1975 this becomes oil 25%, gas 53% and electricity 6%, with all of these estimates by the economic department of McGraw Hill Publishing Co. . . . to offset the statistical forecasts we have several forceful activities — API research, the one-roof trade association, the API fueloil committee, the gas-to-oil conversion results like Meenan Oil at Levittown, N. J., the new market possibilities like water heaters, the oil powered home . . . total dwelling units today are 53 million; in 1965 we expect 58 million, then 63 million in 1970, followed by 69 million in 1975." (Edit. note—Breese spoke in terms of 'dwelling units' which include apartment units, homes with space heaters, central heating.)

Tim Loizeaux, president, Loizeaux Fuel Co., Plainfield, N. J. . . . "You have very little direct competition from majors at retail; we have much more and it affects our margins . . . Vice-president Winger of the Chase Manhattan Bank, New York, says that gas produces only one-fifth as much revenue at the well-head as oil, and that oil for heating must be promoted with equal or greater emphasis than other fuels . . . we were planning an $850,000 project for the New York World's Fair; so far it looks like a red light against us and we hope it's not dead; grass roots promotion could revive it . . . don't wait for the new equipment that's coming . . . if you don't get going now your competitors will get most of the advantage . . . my company puts 10% of operating profits into a fund to help on costs of replacements."

Let's think "We"

Glenn Werly, president NOFI, New York . . . "Following our first interim board meeting on May 26 we will be legally launched by June 1 . . . let's not think of ourselves in terms of 'they,' meaning the majors, the dealers, the equipment manufacturers, or NFC or OHI; rather let's always think 'We' . . . it's an absolute requirement to upgrade service to the public in many areas of the country . . . not fuel, but automatic comfort, and the company that sells fueloil only will soon be a dead duck . . . our competition is franchised utilities, monopolies operating under law, and it's high time to take a look at some of their privileges and how they use them—too often with considerable lack of truth in their promotion . . . in view of the several gasoline price wars over the country the first quarter profits of refiners must have been largely based on fueloil . . . we have had 65% of the refinery volume East of the Rockies supporting our campaigns under the National

HAVE TX WILL TRAVEL

He makes the fastest fill in town. With the famous Blackmer TX Truck Pump backing him up, he gets fast delivery, spends less curb time, makes more deliveries per day. He *really* travels around his route. His secrets: a high capacity TX pump delivering up to 100 GPM, sliding vanes which are self-compensating for wear, new O-Ring and mechanical seals to prevent leakage and maintain efficiency, many other features. Put the TX at the heart of a well-designed fuel oil delivery system and you'll travel, too. Talk to your Blackmer distributor about the system or write for Bulletin 200

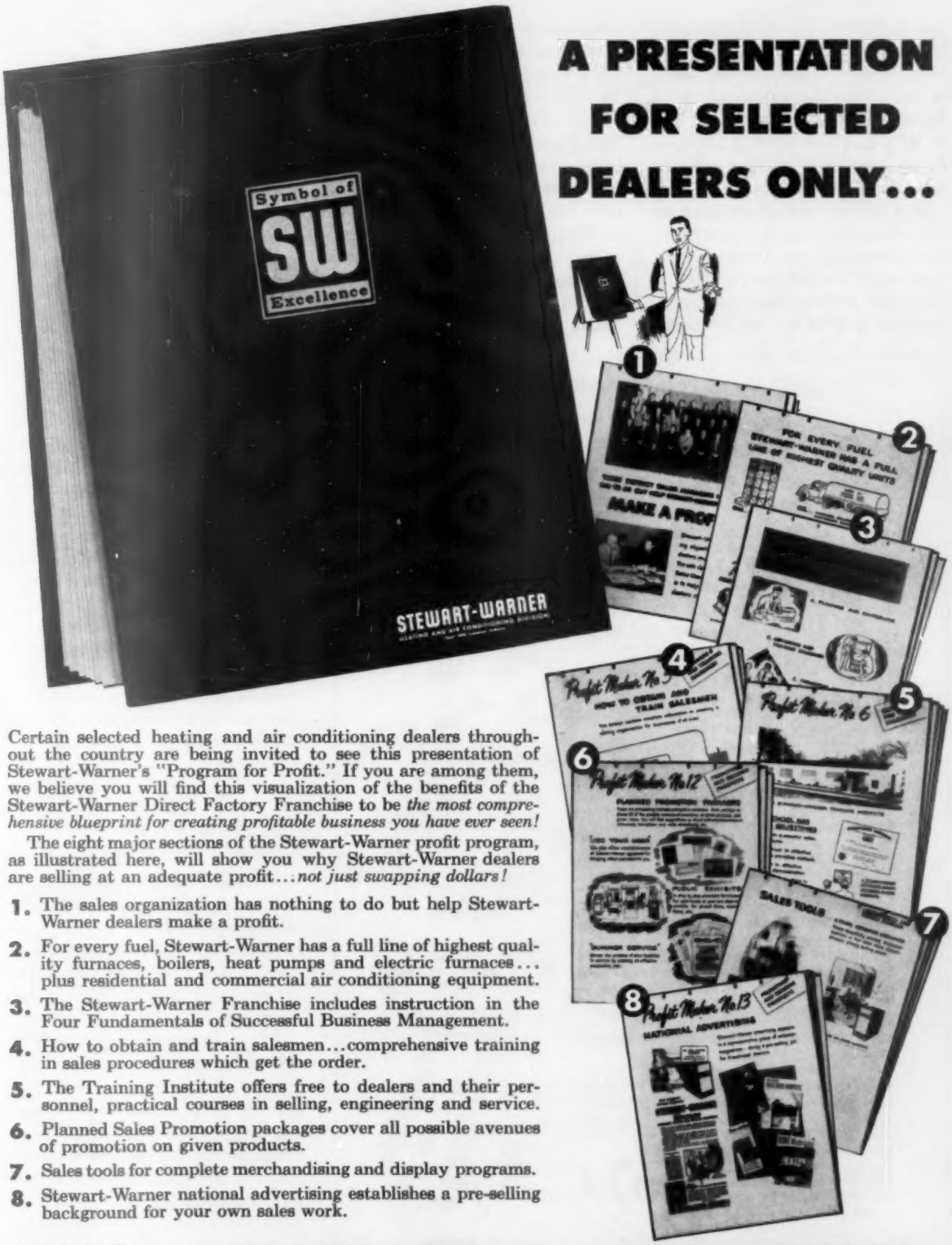
"liquid materials handling"® equipment

BLACKMER / *truck pumps*

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN

Find your Blackmer Man under "Pumps" in the Yellow Pages

A PRESENTATION FOR SELECTED DEALERS ONLY...



Certain selected heating and air conditioning dealers throughout the country are being invited to see this presentation of Stewart-Warner's "Program for Profit." If you are among them, we believe you will find this visualization of the benefits of the Stewart-Warner Direct Factory Franchise to be *the most comprehensive blueprint for creating profitable business you have ever seen!*

The eight major sections of the Stewart-Warner profit program, as illustrated here, will show you why Stewart-Warner dealers are selling at an adequate profit...*not just swapping dollars!*

1. The sales organization has nothing to do but help Stewart-Warner dealers make a profit.
2. For every fuel, Stewart-Warner has a full line of highest quality furnaces, boilers, heat pumps and electric furnaces... plus residential and commercial air conditioning equipment.
3. The Stewart-Warner Franchise includes instruction in the Four Fundamentals of Successful Business Management.
4. How to obtain and train salesmen...comprehensive training in sales procedures which get the order.
5. The Training Institute offers free to dealers and their personnel, practical courses in selling, engineering and service.
6. Planned Sales Promotion packages cover all possible avenues of promotion on given products.
7. Sales tools for complete merchandising and display programs.
8. Stewart-Warner national advertising establishes a pre-selling background for your own sales work.

Symbol of SW Excellence

STEWART-WARNER

HEATING AND AIR CONDITIONING DIVISION • Dept. H-61, Lebanon, Indiana

Fueloil Council; we need more and broader refiner interest and support . . . we must have oilfired airconditioning or in 10 years the equipment manufacturer will be in tougher shape than he is today . . . be critical of your new NOFI; it will help us to know how we're doing on your behalf."

At a question and answer panel on the closing afternoon, two refiners and two dealers told about the work of the Regional Advisory Committee of the Northwest that spearheads the cooperative advertising and EAP programs. The members were Jim Lane, manager, Distributor Sales Div., Standard Oil Co. of California, San Francisco, Dean Burks, Commercial sales manager, Shell Oil Co., Seattle, Roy Lindsay, president, Economy Oil Co., Portland, and Loren Pearce, president, Pearce Oil Co., Seattle. Answers to various questions included the following brief impressions:

"Spokane has been continued for another year as an emergency area getting extra support for its advertising campaign, shared equally between refiners and distributors . . . In the last half of 1960 the EAP effort assisted financially 3,570 oilheating installations, with 2,827 more up to May 10 in 1961 . . . EAP cost thus far is 30% of the first year's gallonage created, which is considered a low price for new gallonage in the market . . . the greatest result of EAP thus far is the confidence in the future created in dealer ranks . . . the working subcommittee headed by Roy Lindsay has undertaken the major activities in their probing stage to separate the wheat and chaff and come up with firm recommendations to the full committee; this included the emergency area concept, the Equipment Allowance Program, methods of financial support . . . the money of both refiners and distributors is deposited with the local chapters and bills are paid from the center; however, the confidential refiners' sales data are handled by Robert Elmslie, secretary of the Regional Advisory Committee . . . legislation and codes need intelligent help from this group rather than depending entirely on the Western Oil & Gas Association.

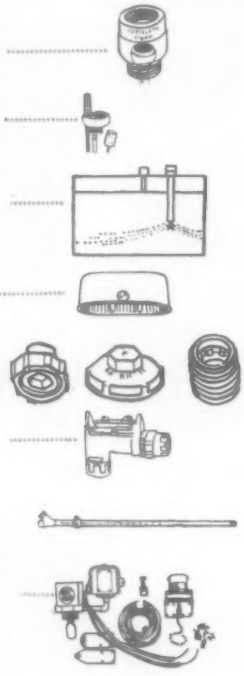
Jim Coon, new president for Oregon, closed the convention with its shortest speech, "This year do it."

GREATER SPEED, FOR GREATER PROFIT, THROUGH THE *SCULLY* SYSTEM

Every unit of the SCULLY System has been built to combine maximum speed and efficiency in every fuel oil delivery. And even more important, each unit has been engineered as part of a complete and dependable system, the only delivery system available. SCULLY products bring you the extra profits that come with the world's fastest fuel oil delivery equipment.

1. VENTALARM® Signal. The original whistling tank fill signal. Over five million now in use. Available for old and new tank installation.
2. VENTALARM® Gauge. Money-saving 2-in-1 combination for new burner installations. One single unit combining the original VENTALARM® Signal with a Tank Gauge.
3. Deep filling with SCULLY® Filful eliminates foaming, making it possible to stop cut-off of the whistle by rising foam. This feature enables filling to the proper level and increasing the average as much as 50 gallons.
4. SCULLY® Safety Vent Cap. An improved cap for 1" and 1¼" vent pipes that amplifies VENTALARM® Signal sound. Provides 50% more venting area than I.D. of pipe.
5. UNIFIL® System. The tight connection delivery system that pays for itself and returns a profit in the first year. Over ten exclusive features.
6. SCULLY® Com Nozzle. A single rugged unit that has revolutionized nozzle design: lighter, faster, easier to repair, and with minimum hydraulic shock.
7. VENTAFIL® The portable combined fill, vent and signal for underground tanks. Built for fast pumping speeds without blowbacks. Light and rugged.
8. Combination SCULMATIC-SCULTROL. The only combination that provides absolute flow control and pressure-limiting control.

See for yourself why SCULLY, after 25 years, is still the industry's leader. Call NOrmandy 5-3900 for more information about any SCULLY products — and the unique SCULLY System.



SCULLY SIGNAL COMPANY

MELROSE 76, MASSACHUSETTS

IN CANADA: E. S. Gallagher Sales, Ltd., 10 Hollis Rd., Toronto, Ontario

©1961 SCULLY Signal Company

Westinghouse to expand airconditioning Facility

A TWO MILLION DOLLAR expansion program, to begin in July, which will include the construction of three additions to the company's plant at Staunton, Va., has been announced by the Westinghouse Electric Corporation, Pittsburgh, Pa.

A major segment of the addition will be the construction of approximately 55,000 square feet of warehouse space. The second part of the expansion will be the addition of about 44,000 square feet of new manufacturing area adjacent to the present main plant building, to be used for the manufacture of heavy airconditioning equipment, and a third part of the program is the erection of a new single-story office building which will make possible the consolidation of all the division's engineering, drafting, laboratory, and model shop personnel.

Hood Canal Anthology

(*Begins on page* 58)

that much on a Btu comparison. We probably can't sell the idea of a cent right away but we'll have to come to it some time or we'll lose ground that we can't afford to lose.

Q. How do you think you could get all of the dealers into such a program when you don't get them all now?

A. I've no idea but it will probably have to originate with the refiners in some way. I feel pretty sure that the job will need that much support.

Q. How many dealers do you have now supporting the program, say in Seattle?

A. We have 90 supporters out of about 250 dealers, but they do 88% of the volume. We're getting new small dealers by the dozens in the market and most of them are operators of service stations. If the station is not doing too well the supplier will often persuade the operator to get into fuel-oil, sometimes actually giving him a truck. He usually sells under the market to get himself established. We've always had some of this type and they don't take so much volume but they keep the market unsettled.

Q. I have heard something of suppliers buying up small dealers . . . how is this?

A. You're only half right It's a case of a small dealer getting into debt to the supplier and not making a go of his business. The supplier bails him out by buying his business, but he doesn't want to keep it. Rather he takes that group of customers and offers to give them to some established fueloil distributor if he in turn will switch to his brand. It's bait to get the total business, doesn't happen every day but it's around.

Mild Weather Problems

Q. I understand you have been through a very mild winter, some say degree-days were off 28% up to April. How do you handle your crew at such a time to avoid too much wasted time and cost?

A. With our company it isn't very hard. You know we have a number of construction companies mostly in the road building business. Every winter at the peak we bring over drivers from the construction crews. When it's mild we don't have to.

Other fueloil companies work different ways. The union won't let us cut the hours of the total force, but insist on full time for the older men, on the basis of seniority, and lay off the younger men entirely.

It isn't always too hard on these young men, because most of them leave in the spring for Alaska with the fishing fleet. They work on shares and in a good season can make as high as ten thousand dollars from the fishing.

Q. How is the oilheating market holding up, now that you have such tough pressure from the other fuels?

A. Stove oil is hit hard, because the small house owner that used a space heater wants to modernize like everybody else and he is the easiest prospect for the gas or electric salesman. A gas wall furnace is cheap, so is electric heating that he can install in individual rooms, wall type or baseboard. Stove oil is probably off a third. Furnace oil is off just a little, although

MAKE MORE,

get your name on the Door

You have three special advantages working for you when you take on a Sinclair Oil Heat franchise . . .

$ **Sinclair Heating Oil** is one of America's best-selling heating oils. Premium Quality at regular price, it contains an exclusive anti-rust ingredient. That means fewer service calls.

$ **An unusual sales training program** that helps bring you new customers.

$ **Ample storage facilities** assure you of quick, dependable service.

Team up with Sinclair Oil Heat for more profits. For details, write: Sinclair Refining Company, 600 Fifth Avenue, New York 20, New York.

Sinclair HEATING OIL

Sinclair HEATING OIL SuperFlame

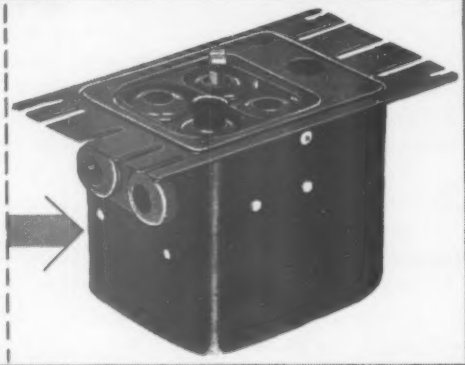
THERE'S ONLY ONE THERMOLOK-ADAPTO IGNITION TRANSFORMER . . . AND ONE DOES THE JOB OF TWELVE!

Check these THERMOLOK-ADAPTO advantages:

- ✓ Reduces inventory space and costs
- ✓ Adaptable to 80% burners serviced
- ✓ Shielded to prevent radio or TV interference
- ✓ Eliminates temporary hook-up and callbacks
- ✓ Takes all standard terminal fittings
- ✓ Mid-Point grounded
- ✓ Has 3 sets of terminals
- ✓ Competitively priced
- ✓ U.L. and C.S.A. approved
- ✓ Guaranteed 18 months

These advantages speak for themselves. Available in 115V or 220V—see your local jobber today!

THERMOLOK MFG. CO., INC.
10998 Tulip Ave., Franklin Square, Long Island, N. Y.



naturally this past season was so warm that you can't count that as anything like a normal market.

New home building is down very much—in Spokane it's off 80%—but outside of that application I believe we're holding our own on other installations.

Q. Speaking of new homes, what does an oil furnace sell for, installed with ducts in a typical builder development?

A. With 75-80,000 Btu capacity, they bring about $525, or $100 below a fair price. And I'd say we're getting better than a third of the new homes this past year.

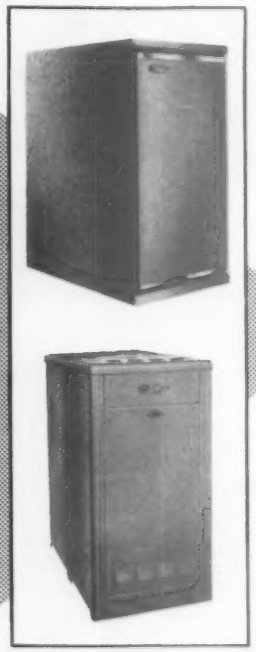
Q. Finally, what do you consider the No. 1 real problem that you face in this Pacific Northwest market?

A. It's dealer confidence in his own future. If he's worried he won't do a good job for the customers and he may try questionable operations that keep the other dealers upset. We've got to convince him that our competition is no longer with each other in the sense that it used to be, but today it's outside and we've just got to close our ranks and help each other. If we do, we can have a fine business for years.

❖

James A. Reed has been named district sales manager, Heating and Air Conditioning Division, Stewart-Warner Corp., Lebanon, Ind. He will cover Missouri, Arkansas, Oklahoma and Kansas.

OIL
GAS
COAL



YOU GET MORE THAN JUST HEATING UNITS

E.F.M. is constantly moving ahead in the development of new and better heating equipment to help increase dealer sales and profits. E.F.M. has a full line of quality heating equipment for all residential applications in all types and sizes for steam, hot water and warm air, burning any of the desired fuels.

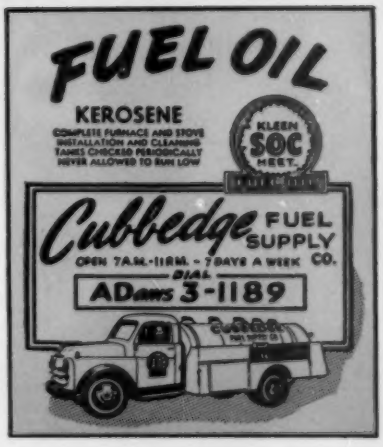
However, you get more than just heating units, as E.F.M. backs its dealers with everything to build greater volume - - - field assistance, cooperative advertising, installation and service training, plus many more dealer aids.

Contact us today for more product information and let us show you how your profit picture can become more attractive with an e.f.m. dealer franchise.

e·f·m ELECTRIC FURNACE MAN INC.
The Finest in AUTOMATIC HEAT

ELECTRIC FURNACE-MAN INC., EMMAUS, PA.
FURNACE BURNER UNITS—BOILER BURNER UNITS—CONVERSION BURNERS
OIL—ANTHRACITE—GAS

"75% of our late-hour phone calls come in through the Yellow Pages!" says G. Cubbedge, owner, Cubbedge Fuel Supply Co., Savannah, Ga. "People who run out of oil run right to the Yellow Pages. I know because we're open late 7 days a week, and 75% of our late-hour, Sunday and holiday business comes in through our Yellow Pages advertising. Just recently, we got a Sunday call from a florist who'll turn out to be a regular $400 a year account. Easy to see why we're sold on the Yellow Pages!"



Display this emblem. It builds your business!

Display ad (shown reduced) runs under OILS—FUEL. Call the Yellow Pages man at your Bell Telephone Business Office to plan your program.

fuel oil & oilheat

Regulations

(*Begins on page* 66)

adopted and enforced. Sure, most of us resent legislation and controls, but in our instance it happens to be one of the most important weapons for our survival. When any Tom, Dick and Harry can go in and put in a slip-shod installation in any manner he sees fit, and that same installation proves to be unsafe, it creates a poor impression of our product and all of us have to live with the black eye. That shows up in the statistics that are developed either locally or nationally.

And here I come to another area where again on the national level we have had help, but perhaps not enough. And that's on statistics that are developed by the NFPA. It is my feeling that with the prestige of a new national association behind us, we have a good chance of changing the classifications and methods of compiling the statistics that relate to oilburner fires and oilburner incidents. At present we come off second-best, regardless of what our experience is, because NFPA in compiling these statistics takes into account every little hillbilly kerosene oilburning installation, whether the guy is pouring it over logs, burning it in a pot burner, or when a still blows up while he is brewing a batch of moonshine with a modern oilburner, or where a malfunction of some one of the controls has misfired. Every incident is counted in a national annual statistic that reflects—very poorly—on the safety of our product.

Ralph Hartell has labored for the last two years, trying to develop a program of education for fire officers and marshals, so that they will properly report these incidents. He has also worked on a national level trying to get NFPA to set up separate categories for fueloil used in central heating systems, and to have range oil and kerosene, which are the cause of most of the deaths, placed in a separate category, but so far he has not been successful. I feel that with pressure from a national association that represents all associations, this can be accomplished and that NFPA will have to revise their method of reporting.

I have pointed out two areas in which I think we are making progress, but what is the answer to our other problems? I have several recommendations to present to you for whatever they are worth.

First, that immediate attention be given to the air pollution problem—that a program of research be instituted that will supply the answers needed to combat the Gas Associations' activities.

Two, that teams of experts be developed—individuals who can and will competently represent our industry at national conferences and before national groups, wherever oil heat acceptance can be furthered. These experts should also be available to back up local associations whenever they get into a hassle with officials or the utilities.

Third, that the industry give more attention to developing its own recommended codes—codes that are backed up by research and testing and are not vulnerable to criticism or attack.

We are particularly going to need a new code when and if the "Oil Pow-

Successful oil burner operation depends on

A RELIABLE ARC

GENERAL ELECTRIC'S IGNITION TRANSFORMER PROVIDES IT!

General Electric Ignition Transformers generate one of the highest crest voltages in the oil heating industry.

They are designed to give you a positive, safe 10,000-volt arc every *time*. They normally deliver an efficient spark even when input voltage drops, electrodes are fouled, low-grade oil is used, or when low temperatures cause oil to thicken.

And the spark you get is of uniform intensity. Specially developed core laminations help to provide the perfect arc . . . not so high as to cause electrode deterioration, yet high enough to sustain ignition.

Whether you build, sell, or service automatic oil burners, specify General Electric Ignition Transformers . . . dependable units you can install and forget!

OTHER OUTSTANDING ADVANTAGES

Low Cost—General Electric transformers are competitively priced . . . you get G-E quality at no extra cost.

Two-year Warranty—G.E. stands behind its transformers with a special two-year warranty from time of manufacture against defects in design, materials, and workmanship.

Custom-designed Mounting—Mounting arrangements can be tailored to meet your requirements. Examples: open slot, hinge, stud, or hinge-clip.

Interference Reduced—Two-way shielding on G-E transformers curtails radio-television interference.

For more information on General Electric's Ignition Transformers, contact your G-E Sales Engineer or Distributor, or write for Bulletins GEA-7017 and GEA-7054 to section 413-10, General Electric Co., Schenectady 5, N. Y.

Progress Is Our Most Important Product

GENERAL ELECTRIC

General Electric's Ignition Transformer . . . designed to strike a reliable arc every *time*!

Superior Filtering for all Oil Burning Equipment!

Klemm MICRO FUEL OIL FILTERS

FF-430 U/L

There's a Klemm Fuel Filter for every standard burner using No. 1 and 2 fuel oil. Your choice . . . metal or glass bowl. "Millions Since 1932."

1. Practically no flow resistance—true depth filtration.
2. Simplified construction for simplified service . . . no tools required.
3. Eliminates nozzle and line clogging for increased burner efficiency.
4. All parts . . . Hi-Chrome and Brushed Zinc.

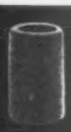
FF-430G

PK-150 U/L

JR-60

chemistone

Controlled porosity element assures sparkling, crystal-clean fuel oil every minute. Traps water . . . removes dust, rust and scale.



Klemm PRODUCTS

Division of
KLEMM AUTOMOTIVE PRODUCTS COMPANY
1722 North Damen Avenue • Chicago 47, Illinois
EXPORT: Guiterman Co., Inc., New York 4
CANADA: Elgee, Ltd., Toronto

ered Home" becomes a reality, for with this new power concept officials will be at a complete loss regarding regulations, and you can be sure our competition will be throwing snowballs every opportunity they get. And this time it will be both the gas and electric interests against us, so we had better be prepared.

Fourth, that regardless of the stature attained by our national association, and regardless of how efficiently it carries out its functions, our first line of defense will continue to be our local associations. They should be encouraged to grow in size and in number since they are the watch dogs of the industry. The ones who have their finger on the pulse of local problems, whether it be on a promotional or legislative front, they need the full support of the industry if they are to continue to function effectively.

Fifth, that some thought be given by the national association to the preparation of a "Modus Operandi" to serve as a guide for local associations in the handling of legislative problems. While I realize that there is not a set pattern that can be followed in either opposing or fostering legislation, there are certain basic ground rules that must be followed, and to the uninitiated these rules can be important. In addition this book should contain a list of the material available to either refute the claims of the opposition or substantiate the proponent's claims.

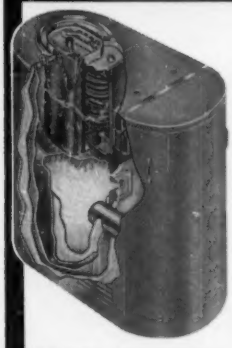
❖

Independent Oil Men have Convention in Boston

THE 37TH ANNUAL Convention of the Independent Oil Men's Association of New England, Boston, Mass., took place April 27 at the Statler Hilton Hotel in Boston.

Featured at the one day convention was a talk by Glenn Werly, president of the newly organized National Oil Fuel Institute, Inc. Other highlights of the meeting included three forums, one dealing with the question of merger of associations on the sectional and local levels, and the other with the future of the fueloil dealer. The third discussed "The desirable gasoline jobber."

ENGINEERED BY EDWARDS



100,000 to 3,000,000 BTU/Hr CAPACITIES IN NEW SMOKELESS OIL-FIRED HOT WATER HEATING UNITS

• High combustion efficiency • Rumble Suppressant Design • 100% automatic air elimination in all Zone-A-Matic gas and oil-fired units

FREE....70 page design handbook on single and multi-zone hot water baseboard heating systems.

EDWARDS ENGINEERING CORP.
3629 ALEXANDER AVE., POMPTON PLAINS, N.J.
TEMPLE 5-2808

One of the nation's largest manufacturers of Residential and Commercial Boiler Burners (gas and oil-fired.). Baseboard and Steel Fin Radiation. Motorized Valves. Air Cooled and Water Cooled Condensers.

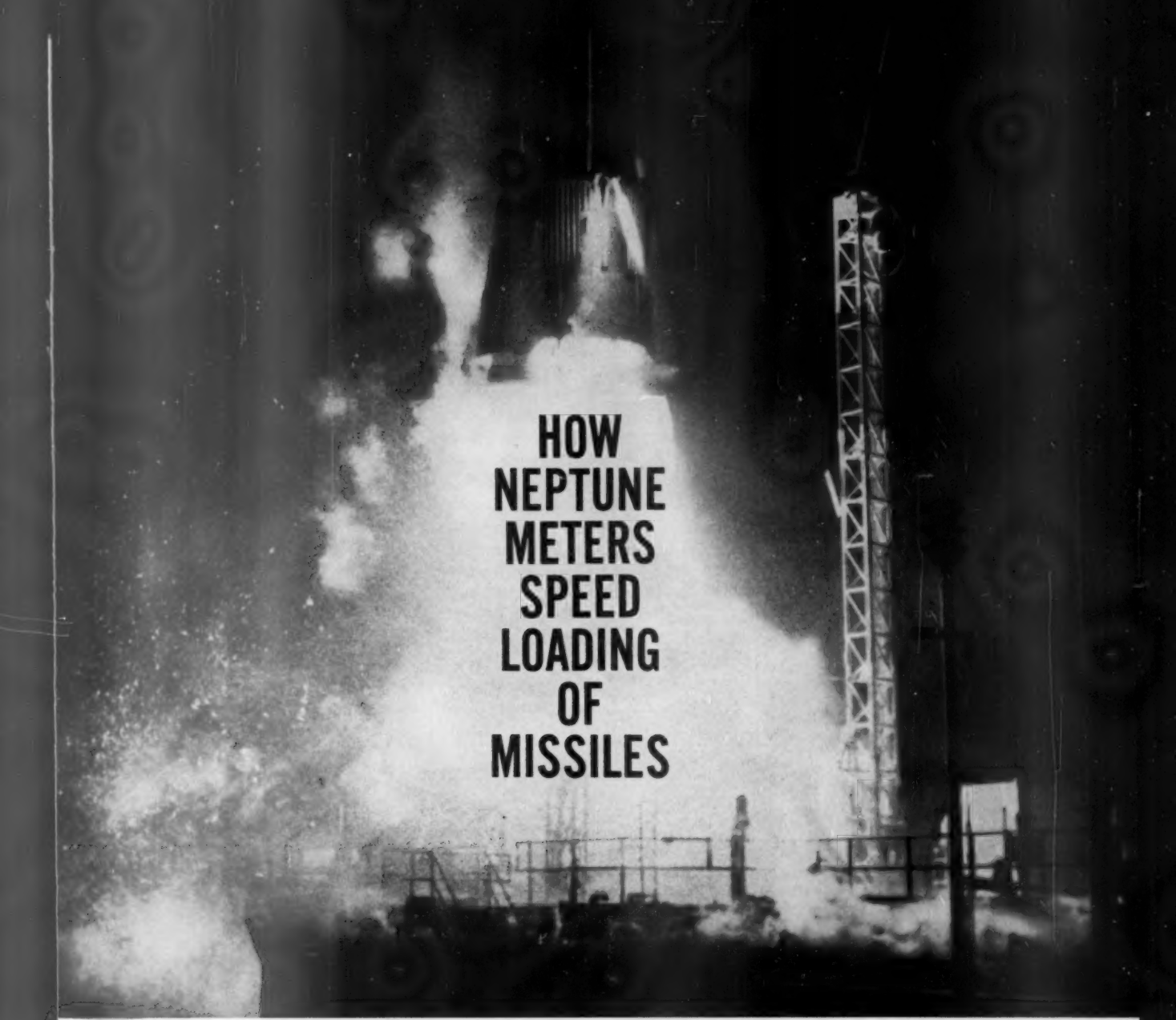
5 YEAR GUARANTEE
backed by large New England Insurance Co.

Distributor Inquiries Invited

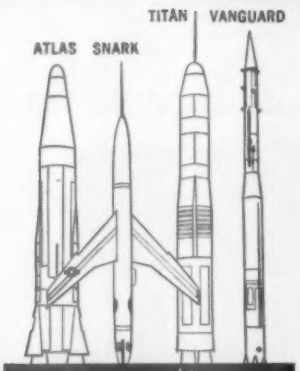
ORIGINAL STEEL
Permanent Tank Bottom

Seal leaking tanks the sure, positive way at a fraction of the cost of a new tank . . . and enjoy a 5 YEAR GUARANTEE of the entire tank! Only STEEL bottoms give certain seal with no chance of leaking or buckling. A one-man, 30-minute job. Insist on the ORIGINAL STEEL Permanent Tank Bottom now being used by over 800 oil and service companies. Three standard sizes . . . all 10" wide . . . in 60", 66" and 72" lengths. If no distributor of STEEL Permanent Tank Bottoms is in your area, order direct from factory—at discount . . . or write for literature.

PERMANENT TANK BOTTOM CO.
600 WYNDHURST AVE. BALTIMORE 10, MD.



HOW NEPTUNE METERS SPEED LOADING OF MISSILES



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for a better measure of profit

In the tense moments before blast-off, when the "bird" is being fueled, a Neptune Meter is at work. As liquid fills the missile's tanks, the meter smoothly ticks off every pound. If required, it can shut off the flow at the exact preselected quantity; it can even turn off the pump and light a "ready" lamp.

For fueling-up and other purposes, four missiles . . . Atlas, Snark, Titan, and Vanguard . . . count on Neptune meters for ground support. *Simplicity, accuracy,* and *proved reliability* are the reasons.

The basic meter is exactly the same as those you use on your trucks and bulk plants. These same meters are widely used for metering jet fuels. Because Neptune engineers have been working on ideas for your future, we were able to help solve special metering problems, such as temperature compensation, required for missiles.

Past, present, and future, Neptune is the meter . . . and the meter *company* . . . you can rely on.

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Branches and Jobbers in All Principal Cities
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LIQUID METER DIVISION

PRINTED FORMS AND OPERATION AIDS
For Immediate Shipment

Check items you are interested in. Attach to your letterhead, mail for information, prices, FREE SAMPLES:

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☐ Service Record Card
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☐ Authorized Receipt
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☐ Inter-Office Correspondence
☐ EZE Stick Pressure Sensitive Label *
☐ Price Charts
☐ Weather Temp. Recording Thermometer
☐ Safety Sidewalk Caution Signs
☐ Sort-O-Matic Rack

☐ METERED ONE-TIME CARBON DELIVERY TICKETS (Truck—Bulk Plant—Gas Pump)

My Name.....
Company.....
Street.....
City.....State.....
*Allow 2 weeks to imprint your copy.

Serving 20,000 Petroleum Firms Over 30 Yrs.
DEGREE DAY SYSTEMS
39-30F 58 ST., WOODSIDE 77, N. Y.

Fueloil Committee

(*Begins on page 64*)

in this presentation and all documented, some with affidavits.

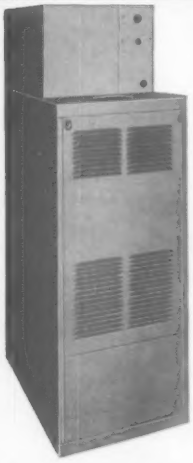
The final feature presentation was a paper by Ben Dodge, director of advertising and public relations, Gulf Oil Co., discussing the pros and cons of national advertising for oil heat, and also the upgrading of the quality of local advertising particularly in the smaller campaigns.

He noted that so-called national advertising would involve considerable waste, but sectional coverage now available in national magazines looks quite good. He feels that if the industry has a good story, it should be concentrated in areas of present customers and best prospects. He thinks that advertising should be forceful but not blatant, claims clearly made without harangue. He feels that there is little point in merely advertising that your company or your industry are nice people to buy from. Emphasizing continuity he noted that research shows people forget half of what they read in 24 hours, and all of it in 14 days unless they see it again.

He feels that in our total campaigns we need more consistent themes and approaches although offering a wide selection of material to the campaigns to fit any budgets and any media. He believes a single emblem should be used every place because of the value of exposure millions of times.

Another phase of this presentation was by Ralph Hartell who showed the members the extent and nature of gas and electric industry advertising during the three years 1959-61. He observed that while the gas industry through AGA spends $4 million annually on advertising, this is on all products. Specific heating ads account for less than one-third of that amount although it is obvious that any promotion of gas as a fuel influences heating. The electric industry finds 142 utilities sharing the national promotion of $2.5 million with 80% of the ads featuring heating. Oddly, most of the 140 utilities are located in prime oilheating states rather than in the heavy electric heating areas.

Century summer winter system

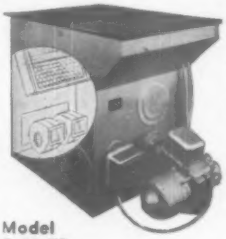


FOR LITTLE MORE THAN HEATING ALONE

Here is central year 'round air conditioning as easy to install as many plug-in appliances. Priced to make you a profit... built to eliminate annoying service calls. You *keep* the profit you make.

Century HEATING-COOLING
CEDAR RAPIDS, IOWA

FURNACE—Oil fired —all types
EVAPORATOR—Matches furnace—no field transitions
COMPRESSOR-CONDENSER—Remote type—installs in minutes



FLOOR FURNACE with a FILTER

ONLY G/A HAS THESE ADVANTAGES

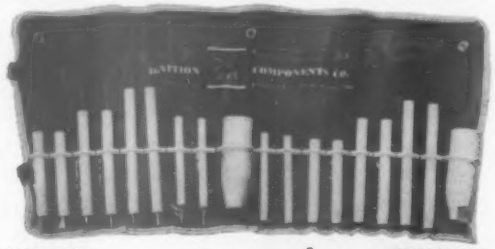
- 30" HIGH . . . 16½" below joist
- INSULATED JACKET
- CIRCULATED, FILTERED AIR
- QUIET OPERATION
- RETURN AIR OPENING . . . to facilitate a return-duct if used.
- EASY ACCESS for filter removal or furnace service from top.
- PRE-ASSEMBLED & WIRED

Model C-85-FB OIL-FIRED 85,000 Btu Output

GENERAL AUTOMATIC PRODUCTS CORPORATION
2300 Sinclair Lane
Baltimore 13, Md.
EAstern 7-7703

Get the complete story . . . CALL, WRITE OR WIRE NOW:

New! Display & Ignitor Kit No.-595

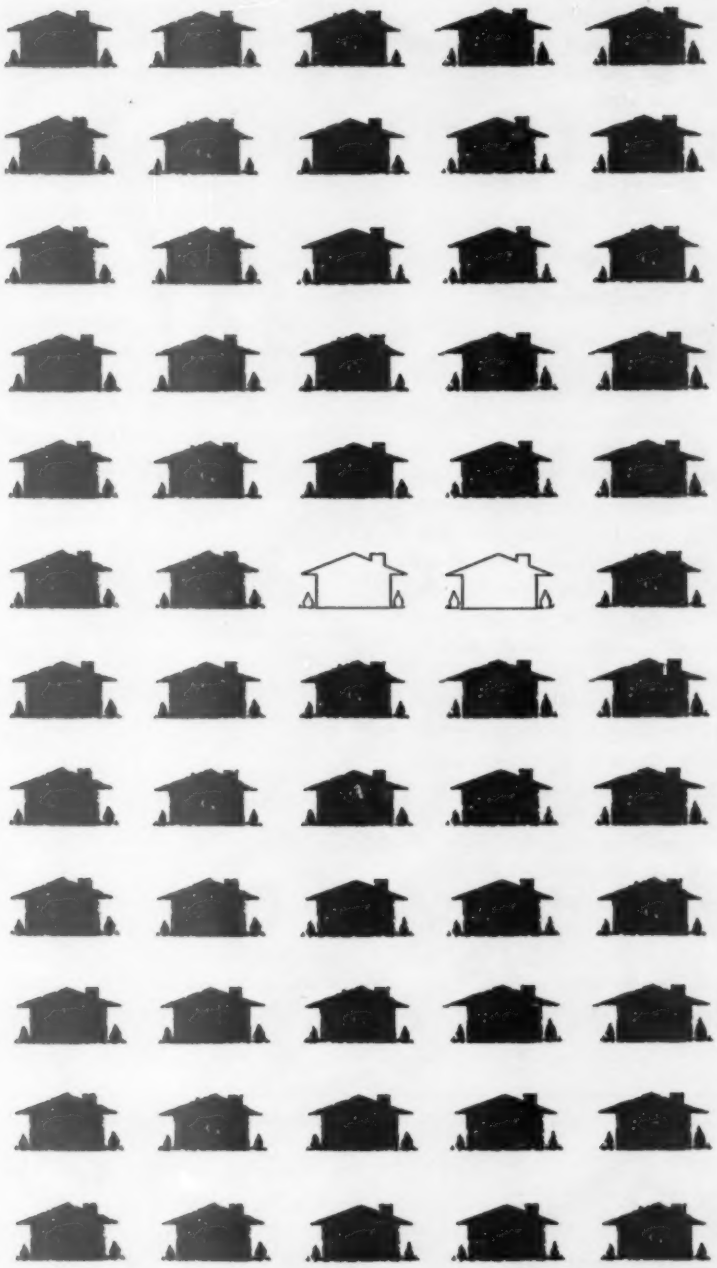


HANGS UP! For Display Attractive Vinyl

Great!

ROLLS UP! For Easy Storage In Serviceman's Tool Box

IGNITION COMPONENTS CO.
P. O. BOX 423 BLOOMFIELD, N. J.



You can replace 98% of the oil burner filters in your territory with just four PUROLATOR elements

With a small inventory of just *four* Purolator filter elements, you're set to handle the replacement needs of 98% of the oil burner filters on the market—old ones, new ones, and most of the odd sizes.

Once you've installed a Purolator you're set for a long time. Purolator elements filter finer (down to 0.0005") and longer (they last a year or more without servicing) than any other filter element on the market. With Purolator, you'll be spared the usual emergency calls to replace nozzles that have failed because of abrasive dirt. And a year or more from now, at replacement time, you'll appreciate the way the Purolator element pops out on a spring to make replacement neat and easy.

Purolator has a cross-reference chart that shows you which Purolator elements will fit which brands of oil burner filters. You can get a free copy of the chart by filling in the coupon and sending it to Purolator Products, Inc., Rahway, New Jersey.

Purolator Products, Inc., Dept. 2578
Rahway, New Jersey

Please send me the Purolator Cross Reference Chart showing the correct Purolator filter element for eight major brands of oil burner filters.

*Name*_____

*Company*_____

*Address*_____

*State*_____ *City*_____ *Zone*_____

Filtration For Every Known Fluid

PUROLATOR

PRODUCTS, INC.

RAHWAY, NEW JERSEY AND TORONTO, ONTARIO, CANADA

YOU ARE INVITED TO VISIT PUROLATOR AT BOOTH 117 AT THE SHOW

Diesel Engines

(*Begins on page* 72)

18,000 Gross Vehicle Weight.

This price seems to be very low. But one thing to remember, the larger the diesel engine, the larger the price difference. For example a large over-the-road tractor from IHC with a Cummins 220 hp engine, costs about $16,000. The same chassis cab from IHC with an IHC gas engine of 195 hp costs about $11,000. Same size truck, almost the same sized engine, but a $5,000 difference in engine price.

Such a price differential makes the diesel a long range proposition. You get a diesel for that truck that you want to use for at least 200,000 miles.

If diesels are so good, why doesn't everyone use them? In this country we have a long history of the gasoline engine. We will remain gas-engine dominant for many more years. However more and more diesels are being used. In England now, the majority of trucks are diesel.

Should you go into diesels? Consider all of the factors. Invite a diesel expert out to look over your operation and to give you free estimates. Get all the facts. Then, if it still looks good, try one diesel on a test basis. The distributor you buy it from will help you with servicing you can't handle yourself. Make sure of this point before signing the papers for the sale.

Run the rig a year. Wring it out. Tally up the figures on the balance sheet, project them for 10 years, and see how you stand.

Then you will be able to answer the question: "Should I concentrate on diesel powered trucks in my fueloil business?"

❖

Recirculation

(*Begins on page* 54)

As a means of further reducing nozzle temperature, some of the cool fresh air entering the burner could be passed between the nozzle and nozzle shield or a return flow nozzle could be used. Heat conduction away from the nozzle to cooler parts of the burner might be accomplished by redesign of the nozzle supports with consideration given to metal selection.

Other means of accomplishing cold starting may be possible. For example, if stack temperature is used to control the fresh air flow to the burner a simple, cheaper method might be to have the variable entrance for the extra air used for starting located at the stack with a bi-metallic helix doing the controlling operation.

Other ways of introducing the recirculated combustion gases into the burner might be better than the method we used; for example, introducing the stack combustion gases into the blast tube by means of a Venturi should minimize temperature problems since the hot gases would not then be passing between the motor and transformer.

Based on the work we have done in our experimental unit, combustion gas recirculation offers four outstanding advantages:

1. Clean, zero smoke number operation
2. Efficiency increase, high CO_2
3. Very quiet combustion
4. Almost flameless appearance.

In addition, the process also gives a hotter flame and a type of burning approaching surface combustion. Since combustion gas recirculation has advantages which should be attractive as features of a new, improved oilburner, further work on design improvement should be justified. The skills of an oilburner designer should be called upon. We at Atlantic hope that the data presented will arouse sufficient interest among oilburner manufacturers that some one will take the process and incorporate it into a particular burner design.

Acknowledgment

Mr. A. T. Cowell (Atlantic Refining Co.) directed the laboratory work on the combustion gas recirculation reported in this paper and assisted in the preparation of the paper.

ADVANTAGES of the BAASCH AUTOMATIC DELIVERY SYSTEM

1. Only one Record Card per customer. Many competing systems, filing cards numerically by degree days, require alphabetical cross-index.
2. Calibrated to average temperature of YOUR area. No need to observe and record daily temperature fluctuations.
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5. No calculations, multiplications or additions—ever. Lucite dial on chart visibly indicates the next scheduled delivery date.
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7. You know in advance which days have a delivery schedule greater than available facilities; permitting you to make suitable arrangements.
8. More gallons per delivery. Avoids special deliveries. Truck mileage reduced. Expensive computing machinery not needed. Business run with less help.

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OHI Convention

(*Begins on page* 60)

a symposium with five papers presented and quite active floor discussion. Chairman Reed told of the Division's work, mentioning six standing Committees . . . on Test Methods, Tank Corrosion, Heating Oil Film Strip, Speakers Bureau, Heating Fuel Characteristics, and Heating Oil Filters.

The Test Methods Committee has completed two assignments—a test for smoke density in flue gas, and a test for determining effect of air supply on smoke density, the first published and the second to be published by the American Society for Testing Materials.

The Tank Corrosion Committee has developed test methods and appointed two independent testing laboratories to evaluate corrosion inhibitors by these methods. These are the Pittsburgh Testing Laboratory and the Robert L. Hunt Co., and thus far six inhibitors have been approved. The Committee on Heating Fuel Characteristics cooperates in the annual fuel survey of the Bureau of Mines and API. Reed made progress reports for the other committees of the division.

R. C. Wright, Iron Fireman, and chairman of Section D-2, Committee E of ASTM (simply stated, it's the committee that establishes standard fueloil specifications for designated grades) told the group of the work being done to get No. 2 oil specifications changed to reflect more nearly the actual products being sold by most refiners today. The present specification was established in 1948 and admits substantially heavier quality than presently used. This inhibits design of more modern oilburners to some degree.

Under consideration is a change in the minimum API gravity from 26 to 30, except in the Pacific States where it will be 28. Today's average in the market is 35, except about 34 in the Western region, although there are wide variations within that average from small refineries.

Wright emphasized the great need for more uniformity of product, explaining that a burner adjusted for 35 gravity oil will not perform as well if some other oil company delivers a load of 28 gravity unless this is followed by a service man to adjust the oil-air ratio of the burner. He observed that the gas industry has similar problems as the character of the fuel varies considerably under certain conditions.

He suggested the possibility of two grades of No. 2 (perhaps a No. 3) with burners designed or adjusted for each . . . but the oil men present objected due to storage and handling problems.

Dr. M. M. Streisand, professor of the petroleum courses at the New York City Community College of Applied Arts and Sciences, told the group that a new heavy fueloil program is soon to be instituted at the college following plans by a technical subcommittee of the Petroleum Education Foundation.

Studies have shown that there is a definite need for trained personnel in three distinct areas . . . fueloil product and equipment sales, operations and office specialists, service and installation of heavy oil equipment.

The research on this project has in-

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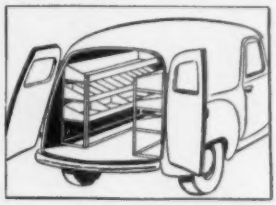

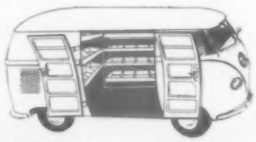

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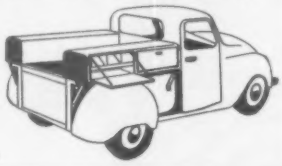


dicated that about 40 qualified graduates could be absorbed by the industry each year in the general New York area for the selling jobs at starting salaries of $5-6,000. Approximately 20 each year could be employed for the operations and office category at about the same salary to start. For the third need, the heavy oil technicians, the college is asking the industry to help determine how this should be inaugurated.

The College has just announced a grant from the Petroleum Education Foundation for three full-tuition scholarships for graduates of the Automatic Heating or Petroleum Marketing courses from three New York City vocational high schools.

Calvin D. McCracken, Jet-Heet, Inc., reviewed the new research and oilheating equipment developments of the industry. Stating that a technical revolution in the heating industry is "taking place right in front of our eyes" he described a few steps of the oilheating phase. The industry is trying to develop an inexpensive burner that can use the same heating system as gas fuel with all costs about the same except the tank, "which the oil company will subsidize in the same way that the gas company does its pipe and meter."

He told of the API program and its Chicago technical conference in March, noting that this is all valuable fundamental research.

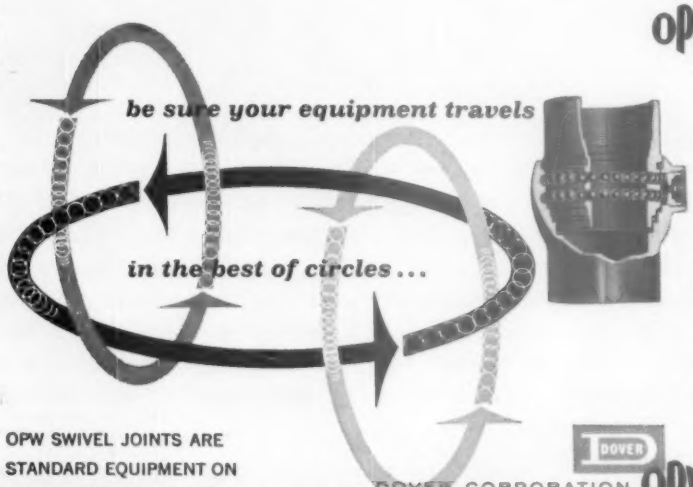
By contrast, the OOHA program, sponsored by 80 dealers, is applied research to design a specific burner. He described burners now in development . . . the OOHA, the Shell, the Gulf, the Bottrill, plus present new types on the market such as Iron Fireman and Jet-Heet.

He urged as immediate needs: 1) new equipment for lowest fuel consumption; 2) the system concept with airconditioning as a vital part; 3) an attractively priced oilfired airconditioner; 4) an oil turbine for a combination of electric power generation, heating and airconditioning.

F. R. Dunn, Jr., Atlantic Refining Co., had a paper on burner service, which will not be reported until a later issue due to space limitations and because there is another Dunn article in this number.

❖

Hicks & Theisen, Inc., Milwaukee, Wis., named representative in the state of Wisconsin for the Peerless Heater Co., Boyertown, Pa.



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fuel oil & oil heat

Management Clinics

(*Begins on page* 61)

who analysed the multiple operations possible within the petroleum industry for independent businessmen. Berry examined the annual statements of the major oil companies and found that they had a 17% profit. He looked further and discovered that the producing end showed the largest profit and marketing the smallest. Since production was beyond the scope of an independent marketer he again explored the profit sheets and found that transportation with a healthy profit margin was one answer. Thus, he bought a small terminal went into the wholesale business. His own firm was then diversified until it contained retail, wholesale, fueloil and gasoline segments.

Marketing the oil-fired water heater was the topic developed by Murray Green, Trageser Copper Works, Jamaica, N. Y. He feels that oil can capture 5% of the total water heater market—or a potential of 200,000 units a year. However, to do this the dealers must publicize the benefits of the unit; they must sell customers on its fast recovery and its lower operating cost.

A daring method of selling service contracts was described by Robert Fawcett, Cambridge, Mass., who automatically enrolled 40% of his accounts with a direct mail and phone program. Customers were contacted by mail, told that they would be put on a service contract at the end of two months unless they returned enclosed card rejecting the offer. Fawcett suggests that the plan be tried to 100 accounts first.

His blueprint for service plans includes these points: They must cover as much as possible, they should carry no termination date, a priced invoice should be mailed after each service call stamped "no charge"; current service bills should be used to sell contracts—and when contract is signed the charge should be abandoned in the contract charge. Fawcett finds it easier to sell contracts at $2.45 per month rather than at a yearly contract fee. He emphasized that the company should sell only one plan, the customer must get his money worth, and it must be easy for the customer to enroll in the plan.

Final speaker on the program was Loren Pearce, Seattle, Wash., who told about the Pacific Northwest builder subsidy program. The fueloil marketers in this area had lost the speculative builder market because a price differential of $150 to $250 existed between gas and oil equipment. To bridge this gap, refiners provide up to $82.50 which will be matched by a like amount by the dealer. The program was instrumental in the sale of 3,570 new units during the last six months of 1960.

The second of the dealer workshops was moderated by Francis Schuster, Indianapolis, who introduced M. J. Reed, Mobil Oil Co., New York, as the first speaker. Reed feels that there is a need for wide-spread burner service done by the dealer. This should include an annual clean-up. To provide the men to make this servicing possible, more training must be made available.

Other things dealers must do according to Reed are: Know more about gas costs and rates; get into airconditioning; and learn more about farm uses for fueloil. (*Cont. pg.* 118)

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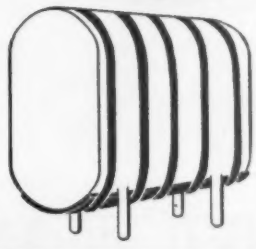
MADE OF MODERN FLEXIBLE ALUMINUM



Seals entire bottom of any 275 gallon vertical oil tank.

Stop tank leaks in one service call.

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AVAILABLE AT 50 SID HARVEY STORES OR BY MAIL

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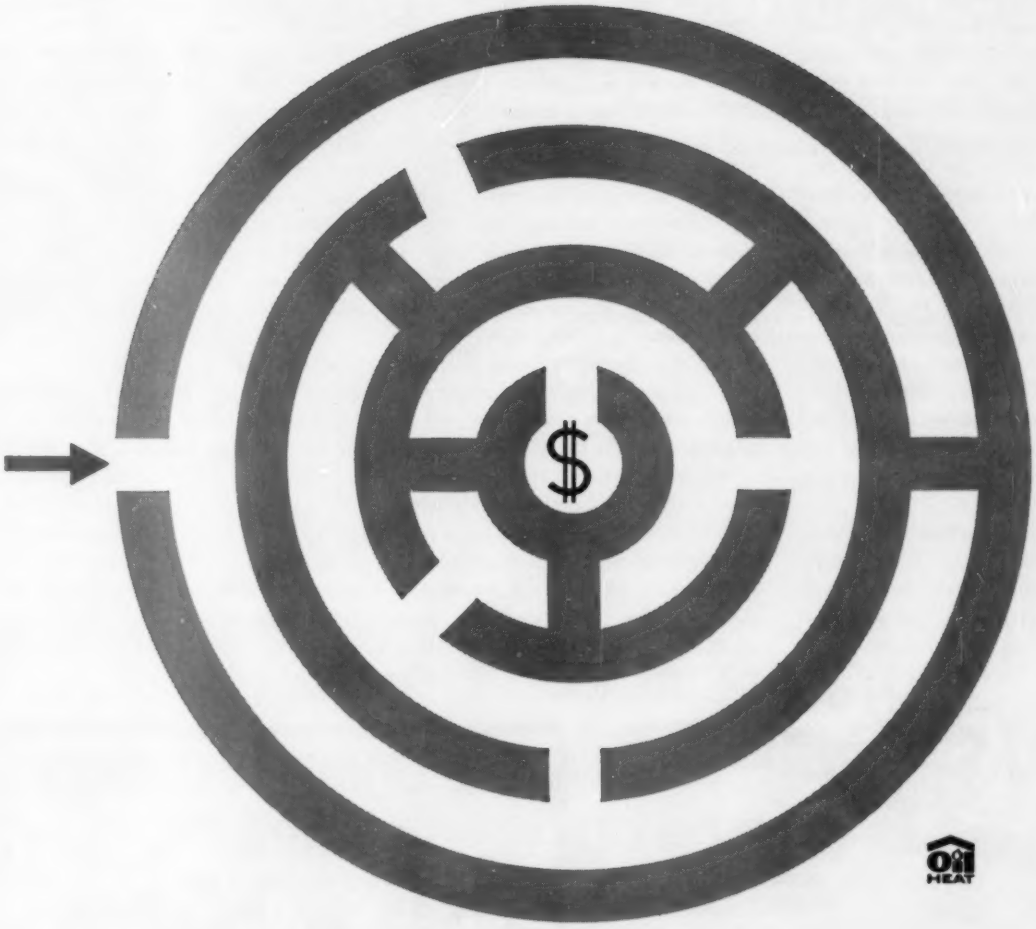

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fuel oil & oilheat

Don Sanders, Gorman-Rupp Co., Mansfield, O., pointed out that fueloil distributors must improve their delivery efficiency. He quoted from a study made three years which said that fueloil distribution costs have spiraled while gasoline costs have held stable. During the past three or four years, much progress has been made in improving distribution methods. To further this progress he suggested that NOFI establish a committee to study fueloil handling.

The need to outline basic business philosophies was emphasized by Kenneth Gifford, Augusta, Me. These attitudes must then be communicated to key personnel and from them to the employees. All management attitudes which may be emotionally based are not always desirable, but because the employee wants to please the employer he will reflect them.

Chet Blome, Metalbestos Division, William Wallace Co., Dallas, Texas, summarized the progress being made on gaining acceptance for the new Type L venting systems. These vents resemble the Type B flue but are a little more expensive to withstand higher temperatures. They will be used with the new low temperature, induced draft oil-fired equipment.

According to Blome, this new equipment will be more competitive for the new homes, will help hold the replacement market, will expand the home improvement and conversion market.

A fueloil dealer's life can be happy according to Al Loucks, Salem, Ore., if he is willing to do certain things. His list of profit and happiness makers include: Willingness to spend money; study what gas and electric competitors are doing; also be informed about own industry by reading trade journals; recognize that suppliers have problems too; treat employees with fairness and handle credit with kindness as well as firmness.

Bill Briggs, Middletown, Conn., outlined a plan for a more efficient service department. He began by saying that we must give more efficient service and we must eliminate the department's losses. Other qualifications were: apply a business plan to service so it needn't lose money; develop a clear cut management policy on paper; demand qualified personnel; have better cost accounting; charge the oil department for every bit of work done for it; do not expect servicemen to keep books; don't argue with customers on service contracts just fix the equipment and charge enough to break even; give service personnel proper equipment to work with; take time to train every employee in attitudes towards customers; have courage enough to condemn old, obsolete equipment.

Last speaker of the final workshop was Walter Blake, Stewart-Warner Corp., Lebanon, Ind., warned dealers that they must not wait for the promised revolutionary equipment — they must sell now. Dealers must pick the right product, then serve the customer to death because customers are the best salesmen the oilheating industry has.

He suggested that when the burner serviceman was in the basement he put a sticker on the water heater no matter what the fuel might be saying the fueloil company would service the water heater—this in turn would bring in possible sales leads.

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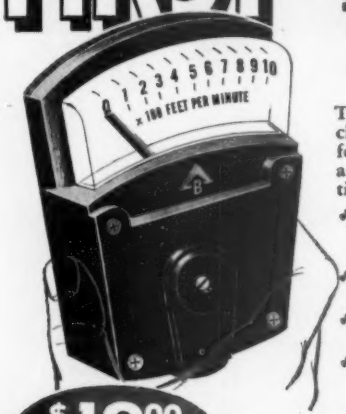

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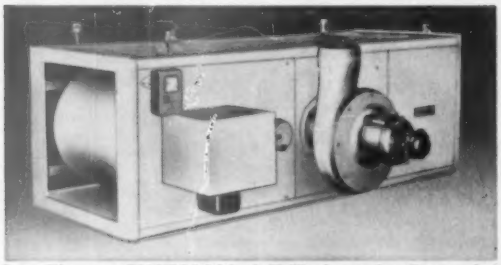
Iron Fireman CUSTOM Mark II Warm Air Furnace. 85,000 to 160,000 Btu/h.



Iron Fireman CUSTOM Mark II Horizontal or Suspended Furnace. 84,000 to 250,000 Btu/h. Since it needs no chimney draft—merely an exhaust vent—it has many unusual commercial and residential applications.

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VoluMetric Combustion cuts fuel and service costs
Sealed combustion system achieves 100% fuel combustion. Flame starts clean and burns clean. No smoke or soot, no flame pulsation. Negligible standby loss—fuel savings range from 18% to more than 50%. No chimney needed—simply an exhaust vent (where local codes permit).

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on promises of cleanliness.

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on promises of extremely low service and maintenance expense.

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ECONOMY, No. 1 selling feature. Francis Woodworth of Center Junction, Iowa, writes: "For the 1958-59 heating season, one of the most severe in recent history, my cost dropped from $200.64 to just $99.17, a saving of $101.47. You are to be congratulated on your dealer. He is a fine fellow."

12 furnaces, 2 service calls all season. Michigan CUSTOM Mark II dealer writes: "In 12 installations only 2 service calls have been made for the entire heating season. In making a thorough check after the heating season we found that the nozzle, electrodes and combustion chamber were absolutely clean and free from any soot or carbon deposits which, to say the least, amazed us."

To fuel oil dealers. If you now have oil customers using old-type, fuel-wasting oil burning equipment, your best insurance against their changing to another fuel is to sell them on modernizing with oil-saving CUSTOM Mark II units.

Get the facts. The market for CUSTOM Mark II furnaces and boilers expands daily—residential heating, automotive service stations, garages and space heating for all types of buildings. Write or wire for full information on equipment and dealer franchise, or mail coupon.

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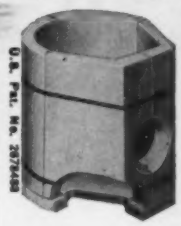

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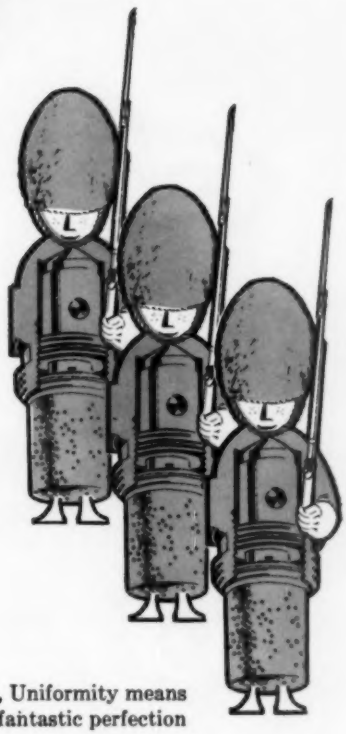

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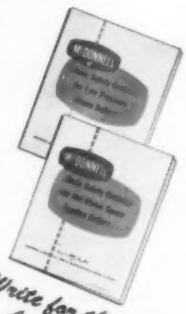

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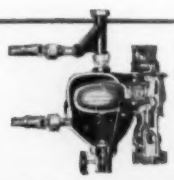

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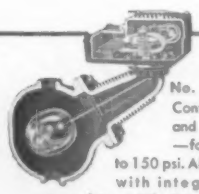

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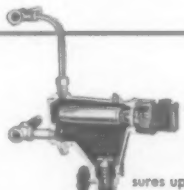

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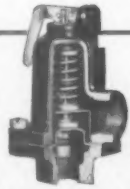

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